2005

MITSUBISHI ELECTRIC

# Service Manual

**SET TOP BOX**

**V26K CHASSIS**

**MODEL**

## HD-4001

**RECEIVER/CONTROLLER**
**FOR MODELS LT-3280 & LT-3780**

**CAUTION:**

Before servicing this chassis, it is important that the service person read the "SAFETY PRECAUTIONS" and "PRODUCT SAFETY NOTICE" contained in this manual.

## SPECIFICATIONS

- **Power Input** : AC 120V, 60Hz
- **Power Usage** : 82W
- **Frequency Range** : VHF 54 ~ 470MHz
  UHF 470 ~ 806MHz
  Analog Cable - 1 ~ 125
  Digital Cable - 1 ~ 135
- **Antenna Input** : 2 RF 75Ω unbalanced
- **Tuning** : 1 NTSC/ATSC/QAM
  1 CableCARD™ Slot
  1 NTSC for PIP
- **Cabinet Dimensions** : 17"(W) x 3.7"(H) x 17.25"(D)
- **Weight** : 12.8 lbs
- **Analog Input Levels** : VIDEO IN JACK (RCA Type)
  1.0Vp-p 75Ω unbalanced
  : AUDIO IN JACK (RCA Type)
  -4.7dBm 43kΩ unbalanced
  : S-VIDEO IN JACK
  (Y/C separate type)
  Y:1.0 Vp-p C:0.286Vp-p(BURST)
  75Ω unbalanced
  : COMP / Y, Cr, Cb (RCA Type)
  Y: 1.0 Vp-p Cr, Cb: 700mVp-p
- **Output Level** : VIDEO OUT JACK (RCA Type)
  1.0Vp-p 75Ω unbalanced
  : AUDIO OUT JACK (RCA Type)
  -4.7dBm 4.7kΩ unbalanced
- **Digital Interface** : IEEE-1394 I/O Jacks
  : AC-3 Digtal Audio Output
  : HDMI™ Input
  : MonitorLink™ Control/RS-232C
  : CableCARD™ Slot
  : NetCommand®

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- Design specifications are subject to change without notice.

**MITSUBISHI DIGITAL ELECTRONICS AMERICA, INC.**

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# INTRODUCTION

This service manual provides service instructions for STB model HD-4001 which uses the V26K chassis. Service personnel should read this manual thoroughly before servicing these chassis.

This service manual includes:

1. Safety Precautions
2. Assembly and disassembly instructions.
3. Servicing printed circuit boards (PCBs).
4. Electrical adjustments.
5. Chip parts replacement procedures.
6. Circuit path diagrams.

The parts list section of this service manual includes:

1. Cabinet and screen parts.
2. Electrical parts.

Schematic and block diagrams of the above listed models are included in this service manual for better understanding of the circuitry. PCB drawings are also included for easy location of parts and test points.

# PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have special safety characteristics are identified in this service manual.

Electrical components having such features are identified by shading on the schematic diagrams and by **bold type** in the parts list of this service manual. and by marking on the supplementary sheet for this chassis to be issued subsequently. **The replacement for any safety part should be identical in value and characteristics.**

CableCARD is a trademark of Cable Television Laboratories, Inc.
TV Guide On Screen is a registered trademark of Gemstar Development Corp.
HDMI is a trademark of HDMI Licensing, LLC.

# SAFETY PRECAUTIONS

**NOTICE:** Observe all cautions and safety related notes located inside the receiver cabinet and on the receiver chassis.

**WARNING:**

1. Operation of this receiver outside the cabinet or with the cover removed presents a shock hazard from the receiver's power supplies. Work on the receiver should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment.
2. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage area. Where a short-circuit has occurred, replace those components that indicate evidence of overheating.

**Leakage current check**

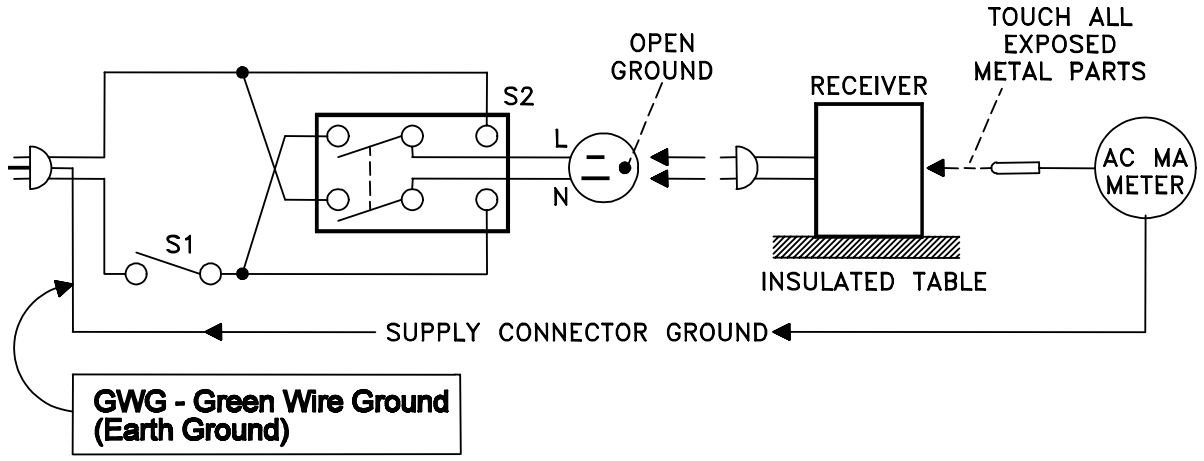
Before returning the receiver to the customer, it is recommended that leakage current be measured according to the following methods.

1. *Cold Check*

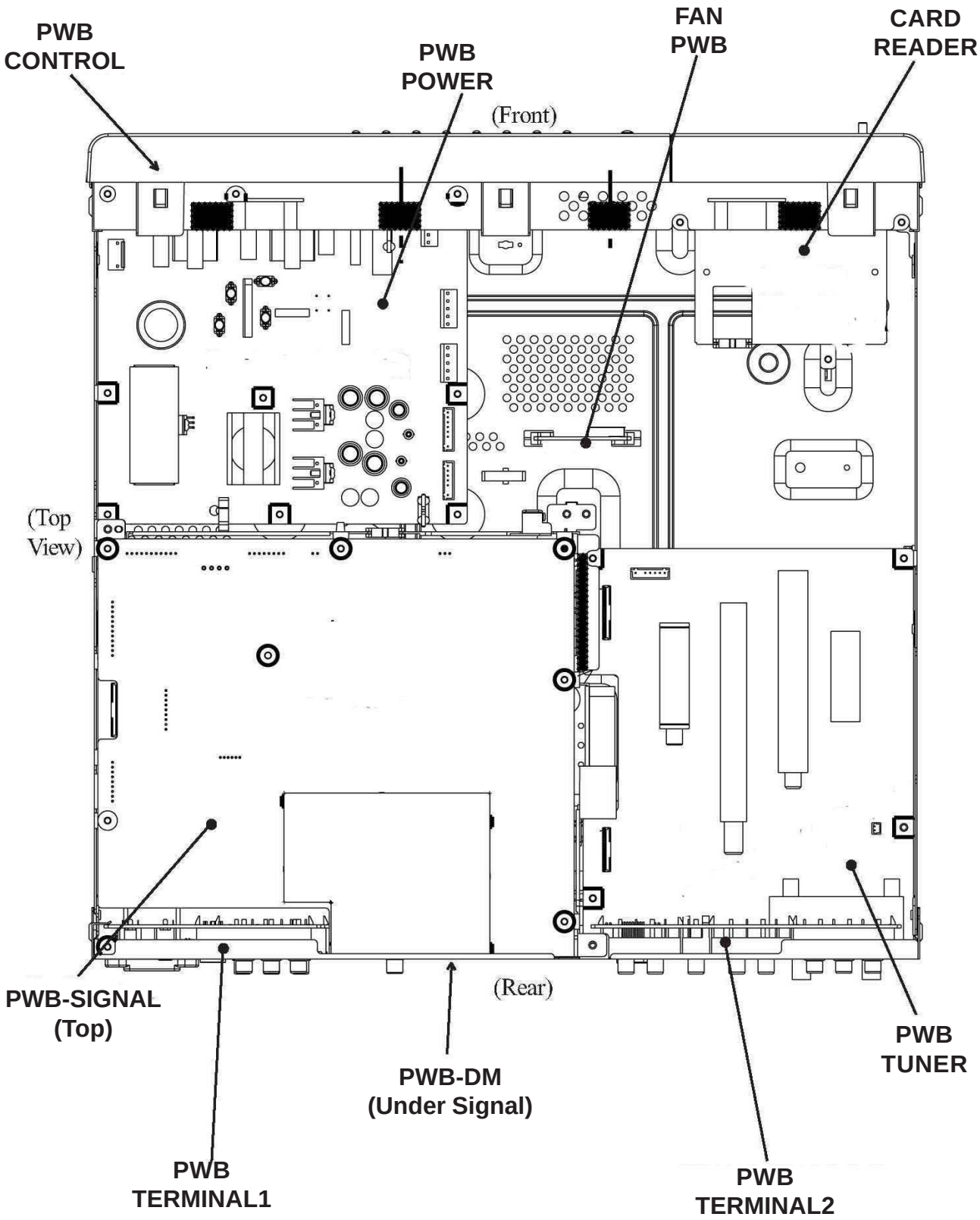
   With the alternating current (AC) plug removed from the AC source, place a jumper across the two AC plug prongs. Connect one lead of an ohm meter to the AC plug and touch the other lead to each exposed metal part (i.e. antennas, handle bracket, metal cabinet, screw heads, metal overlay, control shafts, etc.), particularly any exposed metal part that has a return path to the chassis. The resistance of the exposed metal parts having a return path to the chassis **should be a minimum of 1Mega Ohm**. Any resistance below this value indicates an abnormal condition and requires corrective action.

2. *Hot Check ...Use the circuit shown below to perform the hot check test.*

   1. Keep switch S1 open and connect the receiver to the measuring circuit. Immediately after connection, and with the switching devices of the receiver in their operating positions, measure the leakage current for both positions of switch S2.
   2. Close switch S1, energizing the receiver. Immediately after closing switch S1, and with the switching devices of the receiver in their operating positions, measure the leakage current for both positions of switch S2. Repeat the current measurements of items 1 and 2 after the receiver has reached thermal stabilization. **The leakage current must not exceed 0.5 milliampere (mA).**

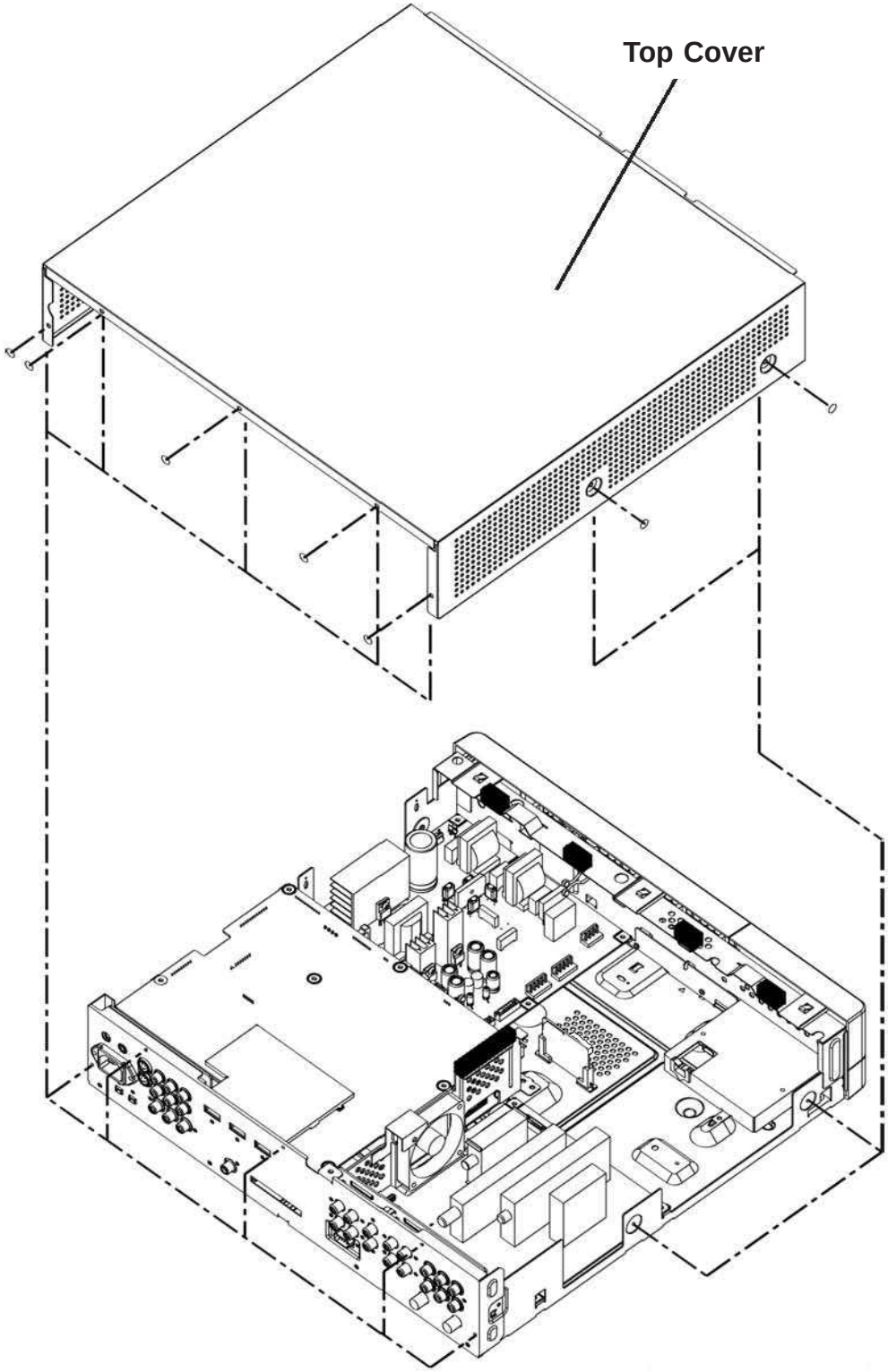


# PWB-LOCATION

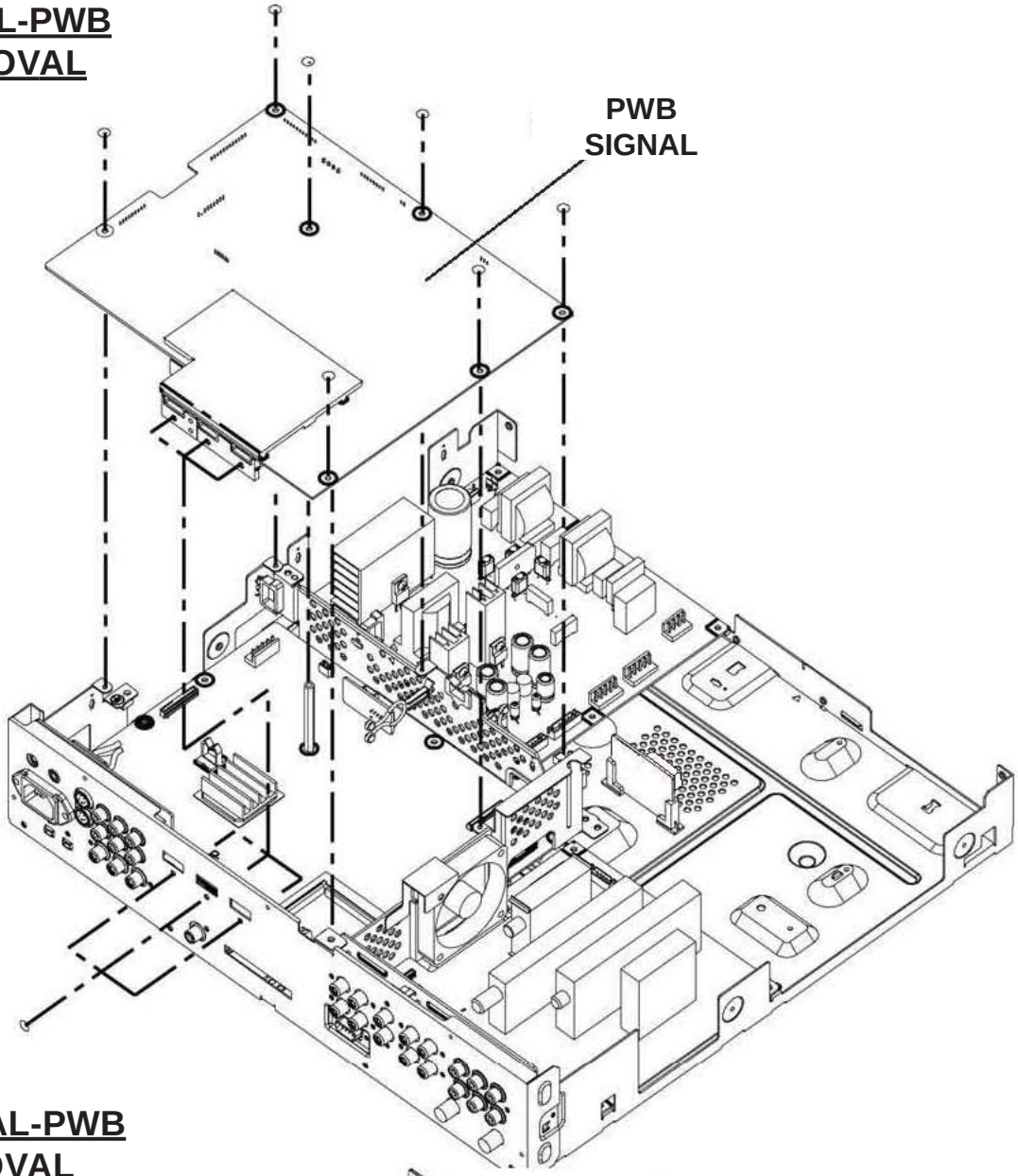


# DISASSEMBLY

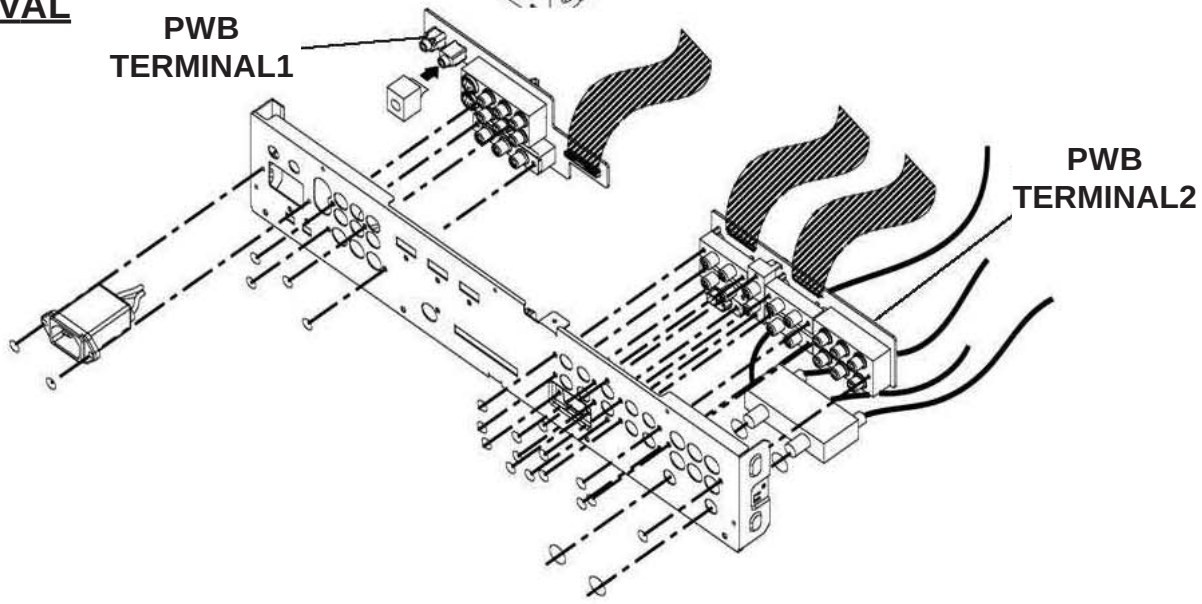
## TOP COVER REMOVAL



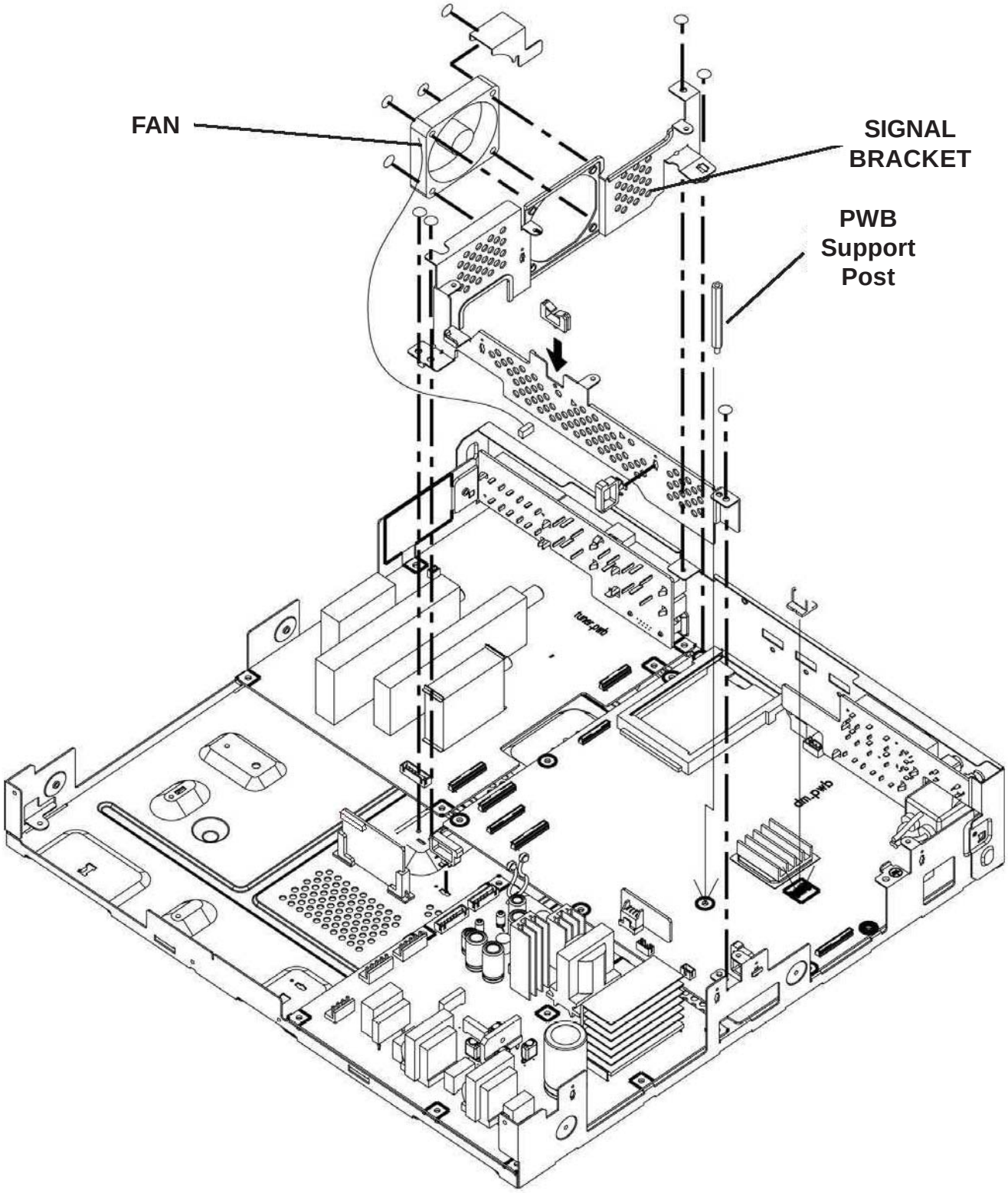
## SIGNAL-PWB REMOVAL



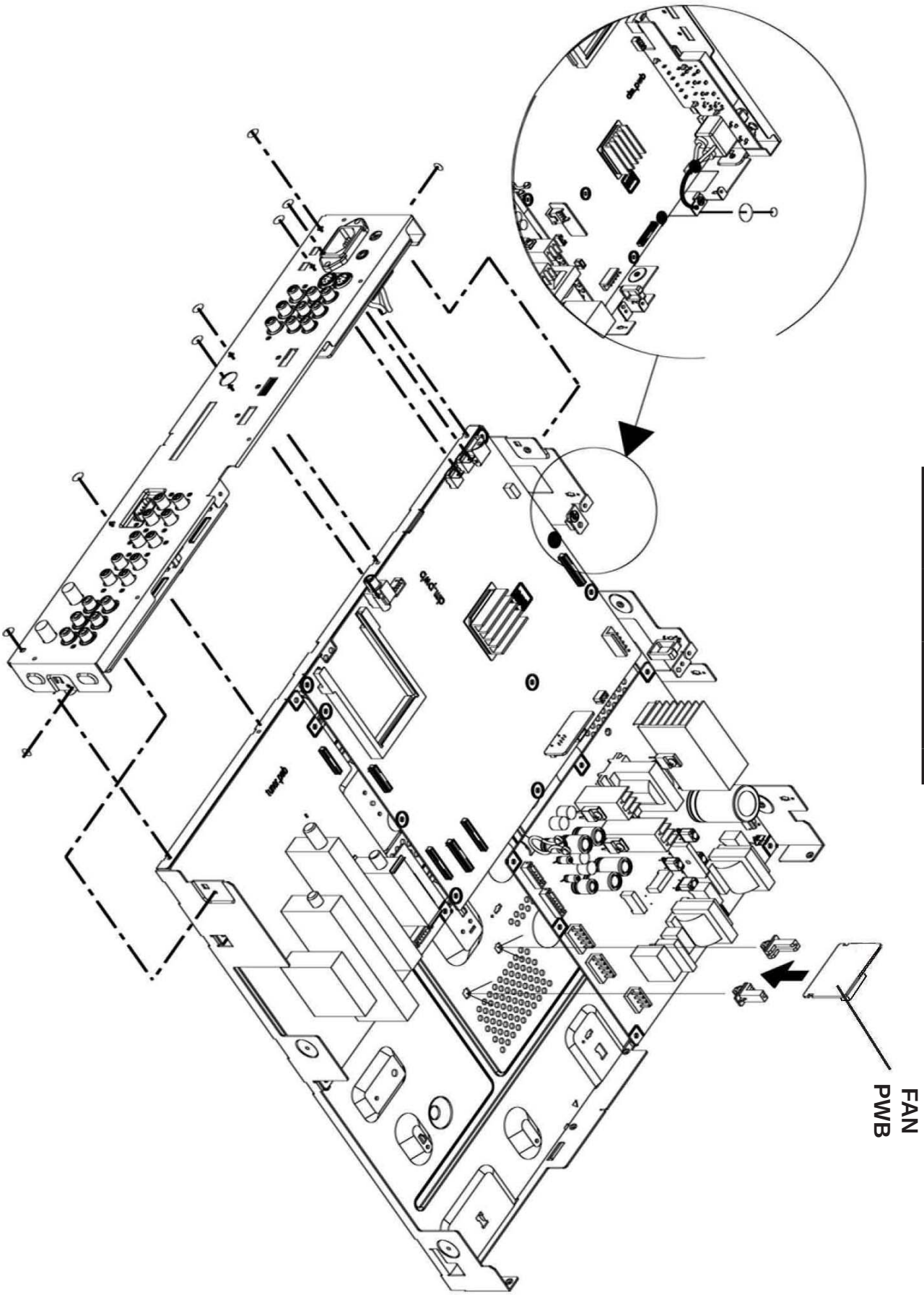

## TERMINAL-PWB REMOVAL



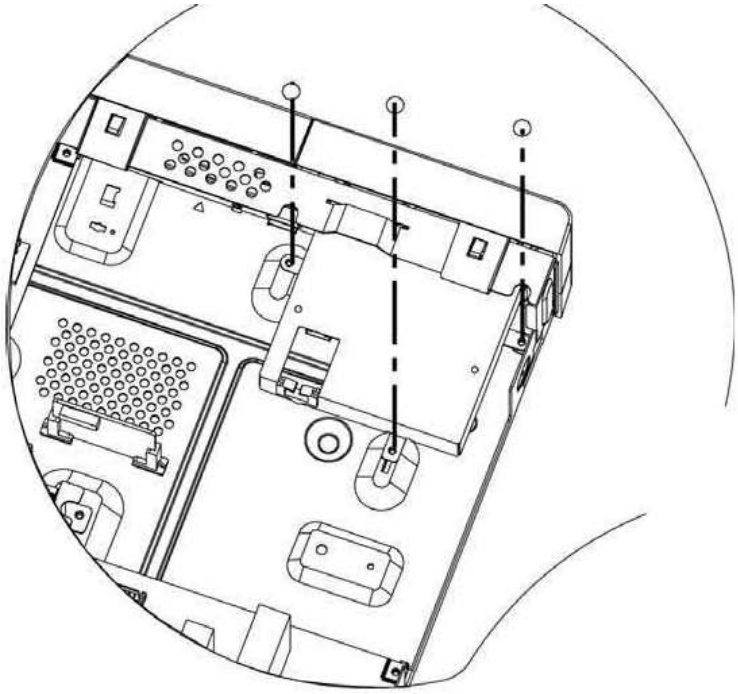
# SIGNAL BRACKET REMOVAL



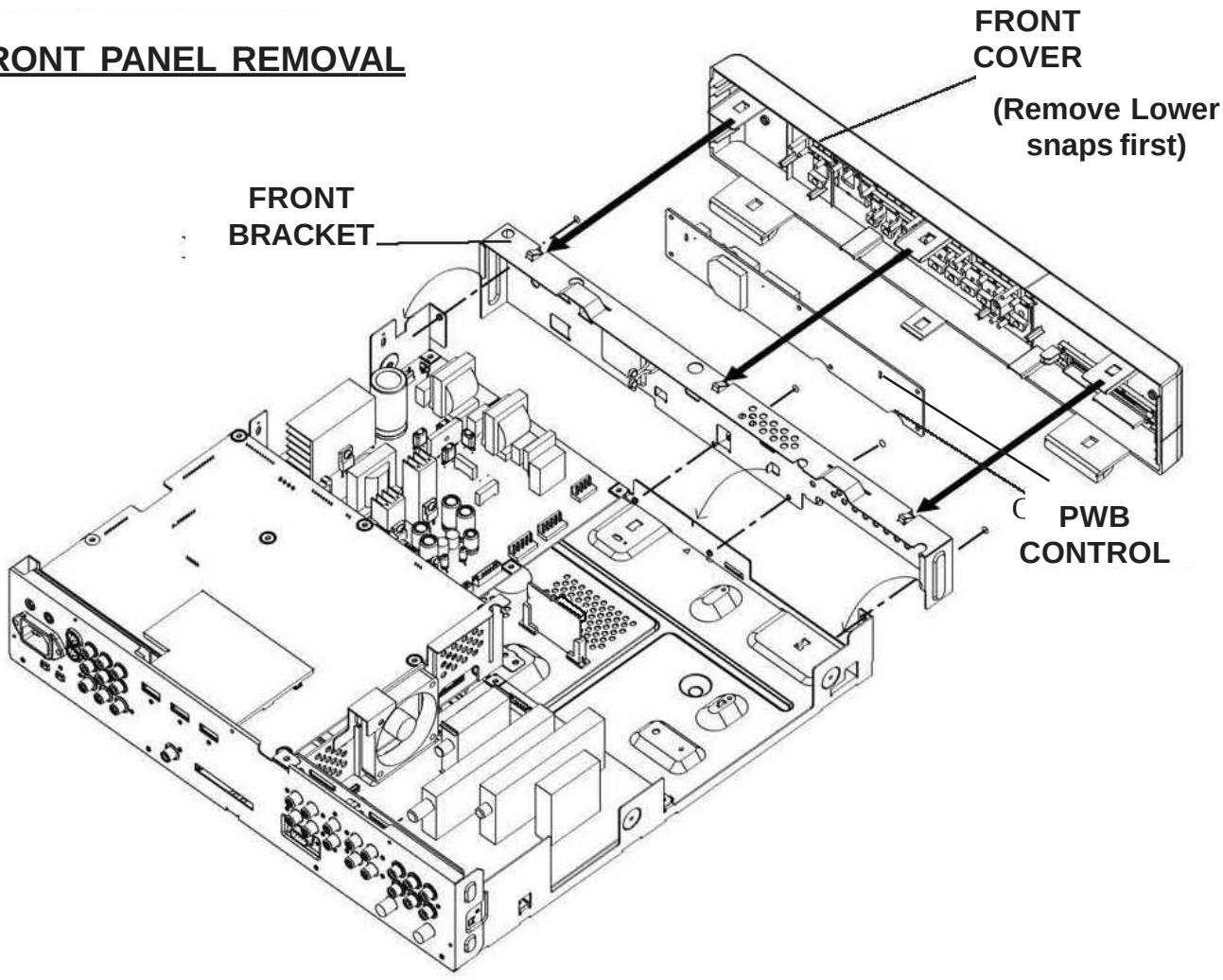
## REAR PANEL REMOVAL



## CARD READER REMOVAL



## FRONT PANEL REMOVAL



# ELECTRICAL ADJUSTMENTS

**Note:** Perform only the adjustments required.
Do not attempt an alignment if proper equipment is not available.

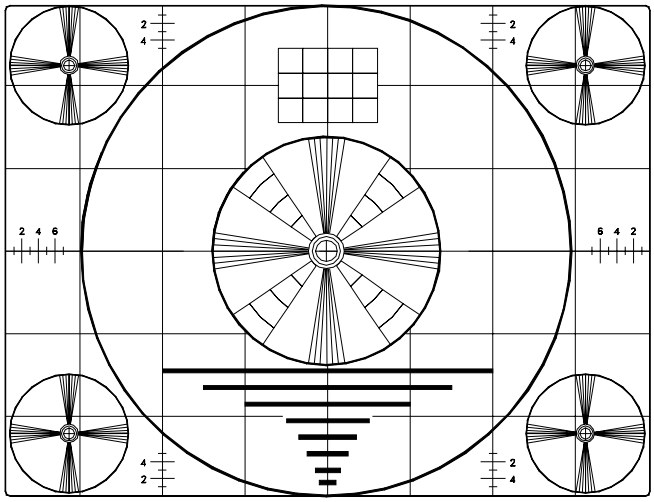
## Test Equipment

- Oscilloscope (Unless otherwise specified, use 10:1 probes)
- Signal Generator (both SD and HD capable)

## Test Signal

### *A. Monoscope Signal*

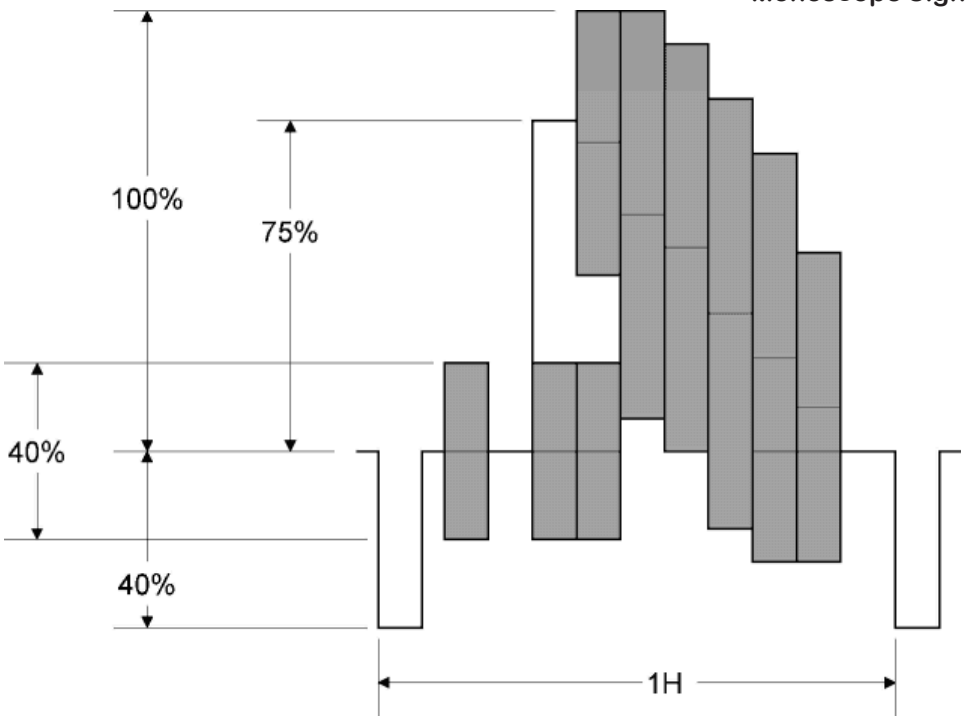
**Note**: If you do not have a monoscope signal source, connect the unit to a VCR and play a Monoscope *alignment tape.
(* Part Number: 859C568060)



### *B. Color Bar Signal*

Use the color bar signal shown below, unless otherwise specified in this manual.

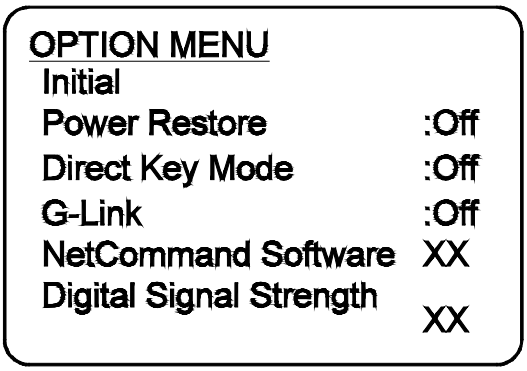
**Monoscope Signal**



# OPTION MENU

1. Press the “MENU” button on the remote hand unit.
2. Press the buttons “2”, “4”, “7” and “0” in order.
   (The screen will change to the option menu.)

MENU-2-4-7-0




# DEFAULTS

**Defaults After Initialization**

| Setup Menu | |
|---|---|
| Language | :English |
| Color Balance | -- |
| Side Bar Color | :Gray |
| **NetCommand Menu** | |
| Edit | -- |
| Transport Menu | :On |
| Default PVR | -- |
| Icon Order | -- |
| Analog Quality | :High |
| **Antenna Menu** | |
| Antenna | :1 |
| Memorize | -- |
| Prefer Digital | -- |
| Channel | :3 |
| Memory | :Deleted |
| Name | -- |
| SQV | -- |
| **Time Menu** | |
| Clock Setting | :Manual |
| Time | :12:00AM |
| Date | :1/01/00 |
| Time Zone | :Eastern |
| Daylight Savings Time | :Applies |
| Timer | -- |
| **Captions Menu** | |
| Analog Captions | :On if Mute |

| Captions Menu (continued) | |
|---|---|
| Background | :Gray |
| Digital Captions | :On if Mute |
| Appearance | :Default |
| Digital Settings | |
| Font | :Font 3 |
| Size | :Large |
| Color | :White |
| Background | :Black |
| Opacity | :Translucent |
| Background Opacity | :Translucent |
| **V-Chip Lock Menu** | |
| V-Chiip | :Off |
| TV Rating | :TV-PG |
| FV-Fantasy Violence | :Enable |
| D-Sexual Dialog | :Enable |
| L-Adult Language | :Enable |
| S-Sexual Situations | :Enable |
| V-Violence | :Enable |
| Programs Not Rated | :Enable |
| Movie Rating | :PG |
| V-Chip Time | |
| Start | :12:00pm |
| Stop | :12:00pm |
| **Lock by Time** | |
| Lock by Time | :Off |
| Lock Time | :12:00pm |
| Unlock Time | :12:00pm |

| Audio / Video | |
|---|---|
| A/V Memory Reset | :Ant-1 |
| Audio | |
| Bass | :50% |
| Treble | :50% |
| Balance | :50% |
| Surround | :Off |
| Listen To (Analog Only) | :Stereo |
| Level Sound | :On |
| Language (Digital Only) | :English |
| Video | |
| Contrast | :50% |
| Brightness | :50% |
| Sharpness | :50% |
| Color | :50% |
| Tint | :50% |
| Video noise | :Standard |
| Film Mode (Auto) | :On |
| Video Mute | :On |
| Back Light | :100% |
| **TV Volume** | :30% |
| **PIP Source** | :Ant-1 003 |
| **PIP Position** | :Lower Right |
| **POP Position** | :Right Half |
| **PIP/POP Format** | :Double Window |
| **Format** | :Stretch |

| A/V Function | Ant 1/2 | Input 1/2 | Component 1/2 | HDMI 1/2 | 1394 |
|---|---|---|---|---|---|
| **Contrast** | Center | Center | Center | Center | Center |
| **Brightness** | Center | Center | Center | Center | Center |
| **Sharpness** | Center | Center | Center | Center | Center |
| **Color** | Center | Center | Center | Center | Center |
| **Tint** | Center | Center | Center | Center | Standard |
| **Video noise** | Standard | Standard | Standard | Standard | Standard |
| **Backlight** | Max | Max | Max | Max | Max |
| **Film Mode (Auto)** | On | On | On | On | On |
| **Bass** | Center | Center | Center | Center | Center |
| **Treble** | Center | Center | Center | Center | Center |
| **Balance** | Center | Center | Center | Center | Center |
| **Surround** | Off | Off | Off | Off | Off |
| **Listen To** | Stereo | N/A | N/A | N/A | N/A |
| **Level Sound** | On | On | On | On | On |

NOTE: User Menu A/V Reset, resets only the selected input A/V settings.

### *A. A/V Memory*

Each of the external inputs has its' own Audio/Video Memory. A change in an A/V setting at a specific input is stored in memory for that specific input.

### B. A/V Reset

The AV Reset in the user's menu initializes only the selected input's A/V Memory.

## LED Indicator Diagnostics

The "POWER/TIMER" LED provides an indication of the sets operation, and the possible cause of a malfunction.

### *1. Initial Control Circuitry Check*

Immediately after the TV is connected to an AC power source:

| LED Indications | Conditions | Probable Cause |
|---|---|---|
| Off | After AC is applied | Standby Power Supply or TV µPC not running |
| Fast Bllink for 70 sec. | After AC is applied | Normal DM µPC is booting up |
| Fast Blink (doesn't stop) | After AC is applied | DM µPC failed to boot up |
| Slow Blink | Set in Off | Normal - Timer is set for Automatic Turn ON |

### *2. Error Code Operational Check*

**Note:** The Set Top Box must be in "Shut Down" and not have been switched Off, to perform the Error Code Operational Check. When the unit is switched Off, the code automatically resets to "12" No Error.

Pressing the front panel "DEVICE" and "MENU" buttons at the same time, and holding for 5 seconds, activates the Error Code Mode. The LED flashes denoting a two digit Error Code, or indicating no problem has occured since the last Initalization.

**Note:** The front panel buttons must be used, NOT those on the Remote Control.

- The number of flashes indicates the value of the MSD (tens digit) of the Error Code.
- The flashing then pauses for approximately 1/2 second.
- The LED then flashes indicating the value of the LSD (ones digit) of the Error Code.
- The Error Code is repeated a total of 5 times.
  Example: If the Error Code is "23", the LED will flash two times, pause, and then flash three times.

### *4. Error Codes*

The Error Code designations indicating malfunction, or no malfunction, are listed below:

| Error Code | Probable Cause |
|---|---|
| 12 | Normal Operation - No Error Detected |
| 35 | Fan Stopped |
| 41 | Short Detected |

## Remote Control Operational Modes

There are two Remote Hand Unit Operational Modes, "Standard" and "NetCommand™". The Remote is initially in the "Standard" mode. The "NetCommand™" mode is used when controlling Home Theater devices using NetCommand™. To change the Remote Operational Mode:

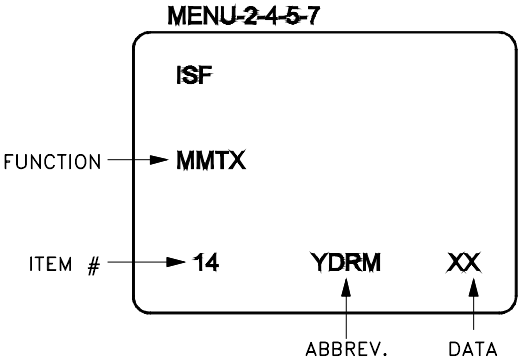
- Set the Remote to the CABLE/DBS/DTV Layer.
- Point the Remote away from the STB.
- To change to "Netcommand™" ... Hold the "Power" button and press "1-9-7" in sequence.

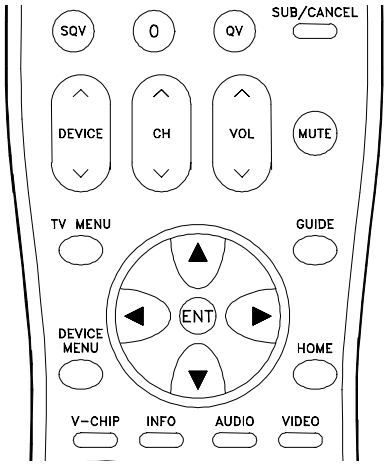
# CIRCUIT ADJUSTMENTS

:

## Electrical Adjustments

Electrical Adjusments are performed in Service Adjustment Mode.



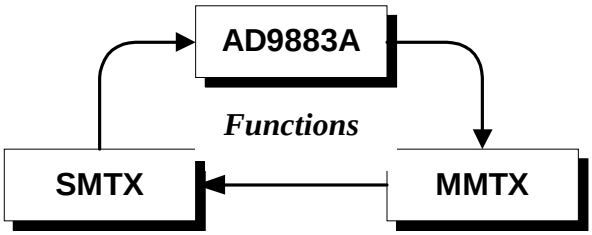




### 1. Activating the adjustment mode

1. Press the “MENU” button on a remote hand unit.
   (The “MENU” display will appear.)
2. Press the buttons “2”, “4”, “5” and “7” in that order. (The screen will change to the adjustment mode.)
   If not changed to the adjustment mode, repeat steps 1 and 2.

### 2. Adjustment Function Selection

Use the “AUDIO” button to select a specific Adjustment Function.




### 3. Adjustment Selection

Use the “VIDEO” button to select a specific elecrtrical ajustment.

### 4. Adjusting Data

After selecting an adjustment item, use the “UP” and “DN” buttons to change adjustment data.

- If the “UP” button is pressed, the adjustment data increases.
- If the “DN” button is pressed, the adjustment data decreases.

### 5. Saving data

Press “ENTER” to save the adjustment data in memory.
The display characters go red for approx. one second in this step.

**Note:** If the circuit adjustment mode is terminated without pressing “ENTER”, changes in adjustment data are not saved.

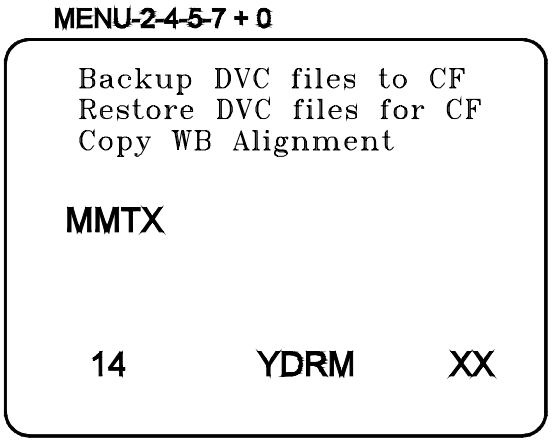
### 6. Terminating the circuit adjustment mode

Press the “MENU” button on the remote hand unit twice to terminate the adjustment mode.

**Note:** The adjustment mode can be also terminated by turning the power off.

## Transferring Data

1) Enter the Service Adjustment Mode ... Press “MENU-2-4-5-7”
2) Press “0” when in the Service Mode ... Three choices appear at the top of the screen.
3) User UP & DN keys to highlight the desired choice, the Press “ENTER”




### Data Transfer Definitions

| Display | Description |
|---|---|
| Backup DVC files to CF | Copies Alignment data to compact flash |
| Restore DVC files from CF | Loads Alignment data from compact flash |
| Copy WB Alignment | Used to transfer WB data from signal E2P to DM E2P |

## SERVICE MODE - Adjustment Items and Initial Data Values

**MAIN MATRIX**

| Item # | Abbrev. | Description | Data Range | Initial Data |
|---|---|---|---|---|
| 1 | TNTM | Main Tint adjustment | 0~63 | 28 |
| 4 | COLM | Main Color adjustment | 0~63 | 20 |
| 14 | YDRM | Main Y gain control | 0~31 | 5 |
| 18 | UPDM | Main Pb Pedestal adjustment | 0~15 | 7 |
| 19 | VPDM | Main Pr Pedestal adjustment | 0~15 | 7 |

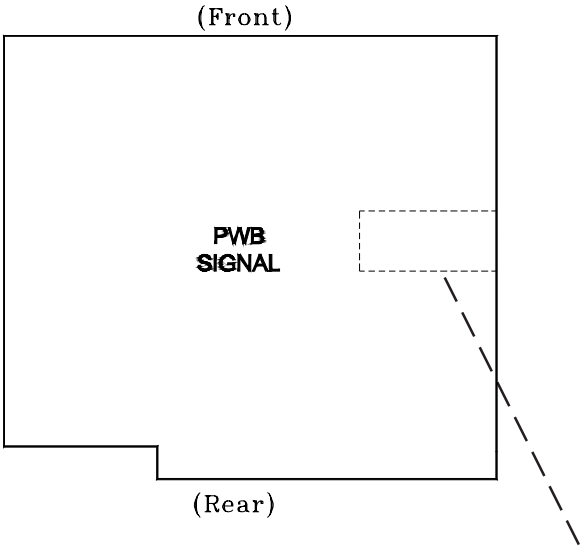
**SUB MATRIX**

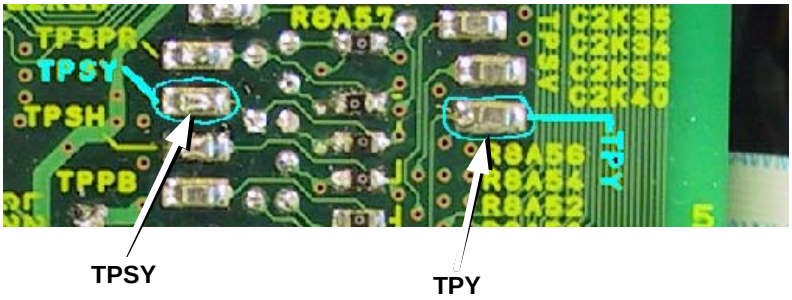
| Item # | Abbrev. | Description | Data Range | Initial Data |
|---|---|---|---|---|
| 1 | TNTS | Sub Tint adjustment | 0~63 | 28 |
| 4 | COLS | Sub Color adjustment | 0~63 | 18 |
| 14 | YDRS | Sub Y gain control | 0~31 | 5 |
| 18 | UPDS | Sub Pb Pedestal adjustment | 0~15 | 7 |
| 19 | VPDS | Sub Pr Pedestal adjustment | 0~15 | 7 |

**AD9883A**

| Item # | Abbrev. | Description | Data Range | Initial Data |
|---|---|---|---|---|
| 12 | ROFF | Red Offset | 0~127 | 55 |
| 14 | BOFF | Blue Offset | 0~127 | 59 |

# TEST POINTS




**[Video Circuit]**

**1. Main-Y Gain**

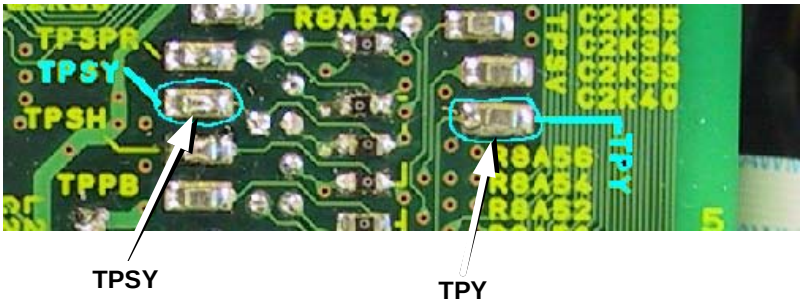
**Purpose:** To set the main picture Y level

**Symptom:** Incorrect analog source main picture brightness level.

| | |
|---|---|
| **Measuring Instrument** | Oscilloscope |
| **Test Point** | TPMY |
| **Ext. Trigger** | ------ |
| **Measuring Range** | ------- |
| **Input Signal** | Color bars |
| **Input Terminal** | External Input |

1. Supply a Color Bars with 100% white signal to an External Input.
2. Connect a scope to TPY.
3. Enter the Alignment Mode (MENU-2-4-5-7)
4. Select the MMTX function (AUDIO button).
5. Select adjust item #14 YDRM (VIDEO button).
6. Set the data so the waveform at TPY is 0.7 Vp-p ±0.03 Vp-p (ADJUST buttons).
7. Press “ENTER” to save data.
8. Press “MENU” twice to exit the service mode.

**PWB-SIGNAL (Partial)**



**[Video Circuit]**

**2. Sub-Y Gain**

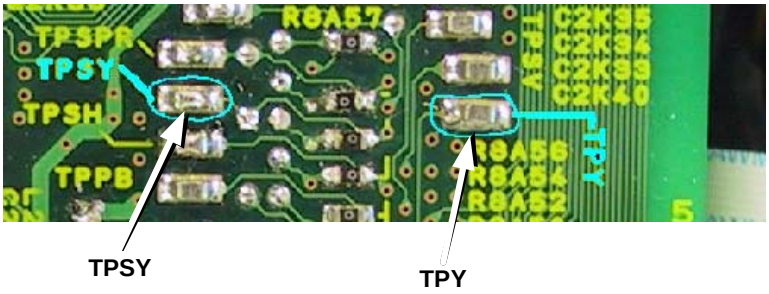
**Purpose:** To set the sub picture Y level

**Symptom:** Incorret analog source sib picture brightness level.

| | |
|---|---|
| **Measuring Instrument** | Oscilloscope |
| **Test Point** | TPSY |
| **Ext. Trigger** | ------ |
| **Measuring Range** | ------- |
| **Input Signal** | Color bars |
| **Input Terminal** | External Input |

1. Supply a Color Bars with 100% white signal to an External Input. Select this input as the sub picture source.
2. Connect a scope to TPSY.
3. Enter the Alignment Mode (MENU-2-4-5-7)
4. Select the SMTX function (AUDIO button).
5. Select adjust item #14 YDRS (VIDEO button).
6. Set the data so the waveform at TPSY equals the main-y signal. (ADJUST buttons).
7. Press “ENTER” to save data.
8. Press “MENU” twice to exit the service mode.

**PWB-SIGNAL (Partial)**




**[Video Circuit]**

**3. Sub Picture Offset**

**Purpose:** To match sub picture white to main picture white

**Symptom:** Sub picture white differs from white in the main picture.

| | |
|---|---|
| **Measuring Instrument** | ---- |
| **Test Point** | ---- |
| **Ext. Trigger** | ------ |
| **Measuring Range** | ------- |
| **Input Signal** | Full White Raster |
| **Input Terminal** | External Input |

1. Supply a full white raster signal to an External Input.
2. Select the white raster as the source for both the main and sub pictures.
3. Use the PIP/POP buttion to select the Single PIP mode.
4. Enter the Alignment Mode (MENU-2-4-5-7)
4. Select the AD9883A function (AUDIO button).
5. Select item #12 ROFF and #14 BOFF (VIDEO button).
6. Set the data fore items #12 and #14 so the sub picture white is close to that in the main picture. (ADJUST buttons).
7. Press “ENTER” to save data.
8. Press “MENU” twice to exit the service mode.

# CHIP PARTS REPLACEMENT

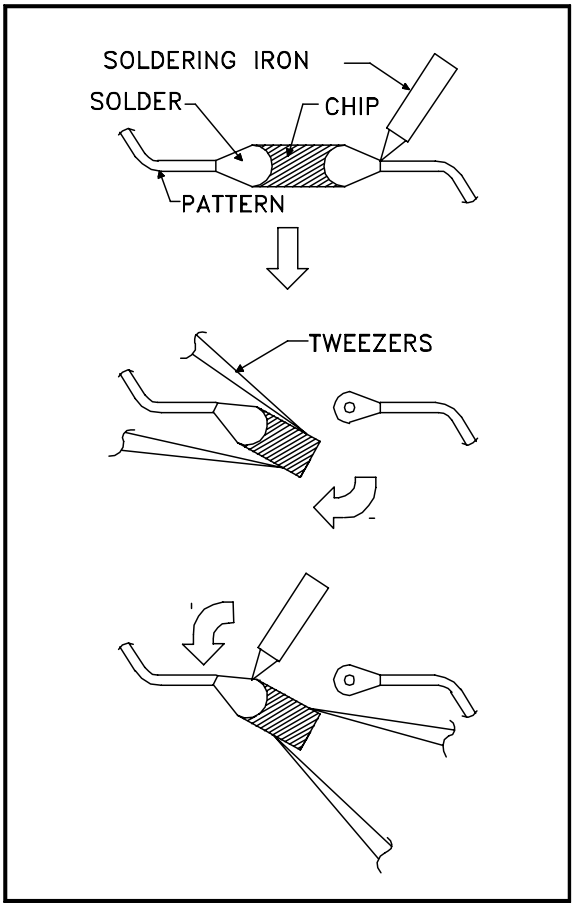
Some resistors, shorting jumpers (0 Ohm resistors), ceramic capacitors, transistors and diodes are chip parts. The following precautions should be taken when replacing these parts.

**Cautions:**

1. Use a fine tipped, well insulated soldering iron (approximately 30 watts), and tweezers.
2. Melt the solder and remove the chip parts carefully so as not to tear the copper foil from the printed circuit board.
3. Discard removed chips; do not reuse them.
4. Do not apply heat for more than 3 (three) seconds to new chip parts.
5. Avoid using a rubbing stroke when soldering.
6. Take care not to scratch, or damage the chip parts when soldering.
7. Supplementary cementing is not required.

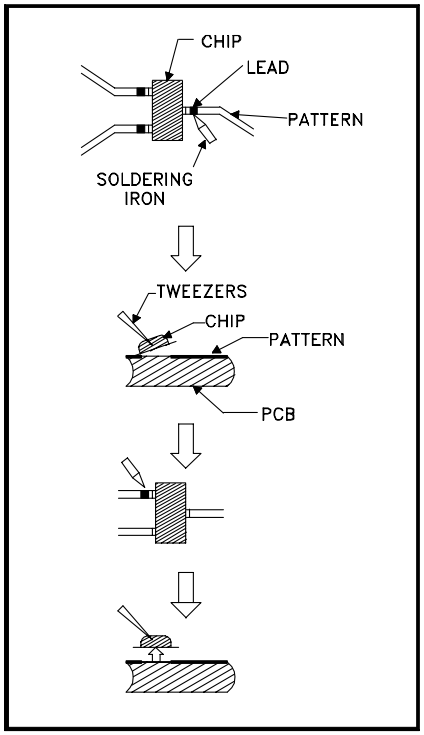
**Chip Parts Removal (Resistors, Capacitors, etc.)**

1. Grasp the part with tweezers. Melt the solder at both sides alternately, and remove one side of the part with a twisting motion.
2. Melt the solder at the other side and remove the part.



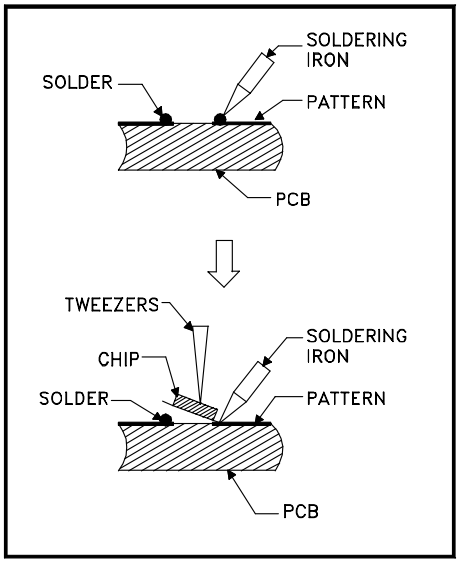

**Chip Parts Removal (Transistors)**

1. Melt the solder of one lead and lift the side of that lead upward.
2. Simultaneously melt the solder of the other two leads and lift the part from the PCB.




**Replacement**

1. Presolder the contact points on the circuit pattern.
2. Press the part downward with tweezers and apply the soldering iron as shown.



# REPLACEMENT PARTS

**Parts Ordering**
To expedite delivery of replacement parts orders, specify the following:

1. Model Number/Serial Number
2. Part Number and description
3. Quantity

**Note:** Unless complete information is supplied, delay in processing of orders will result.

**Critical and Warranty Parts Designation**

**Critical Electrical Components** are indicated by **Bold Type** in the Parts List, and in the schematic diagrams by shading.

**Warranty Return Parts** are indicated in the Parts List with an **(*)**.

**Parts Tolerance Codes**
Refer to the following chart for tolerance characteristics of electrical components.

| MARK | B | C | D | F | G | J | K |
|---|---|---|---|---|---|---|---|
| Tolerance % | ± 0.1 | ± 0.25 | ± 0.5 | ± 1 | ± 2 | ± 5 | ± 10 |

| MARK | M | N | V | X | Z | P | Q |
|---|---|---|---|---|---|---|---|
| Tolerance % | ± 20 | ± 30 | ± 10 | + 40<br>-20 | + 80<br>-20 | + 100<br>- 0 | + 30<br>-10 |

| MARK | M | N | V | X | Z |
|---|---|---|---|---|---|
| Tolerance (pF) | ± 0.1 | ± 0.25 | ± 0.5 | ± 1 | ± 2 |

## INTEGRATED CIRCUITS

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| IC2001 | 276P257010 | IC-C-MOS - Sil9031CTU | |
| IC2011 | 261P837010 | TR-CHIP - UPA672T | |
| IC2020 | 275P981010 | IC-C-MOS - 24LCS22AT/SN | |
| IC2021 | 275P981010 | IC-C-MOS - 24LCS22AT/SN | |
| IC2040 | 271P071010 | IC - BA033SFP | |
| IC2051 | 261P837010 | TR-CHIP - UPA672T | |
| IC2070 | 261P837010 | TR-CHIP - UPA672T | |
| IC2080 | 271P072040 | IC - LD29150DT18R | |
| IC2090 | 275P718010 | IC-C-MOS - TC74HC4053FT | |
| IC2091 | 261P837010 | TR-CHIP - UPA672T | |
| IC2092 | 275P718010 | IC-C-MOS - TC74HC4053FT | |
| IC2093 | 261P837010 | TR-CHIP - UPA672T | |
| IC2C00 | 275P989010 | IC-C-MOS - MAX3223ECAP | |
| IC2C01 | 276P020010 | IC-C-MOS - SN74LVC2G14DBVR | |
| IC2C02 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC2C03 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC2K01 | 271P061010 | IC - CXA2189Q | |
| IC2L00 | 271P078010 | IC - MM1566AJBE | |
| IC2L70 | 270P938010 | IC - MC33202D | |
| IC2M01 | 275P947010 | IC-C-MOS - UPD64083 | |
| IC2M02 | 272P379020 | IC - LM1881MX (NSC) | |
| IC3B01 | 270P938010 | IC - MC33202D | |
| IC3C01 | 276P146010 | IC-C-MOS - CS5340-CZR | |
| IC3E01 | 276P147010 | IC-C-MOS - CS8405A-CZR | |
| IC3E02 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC3E03 | 275P356010 | IC-C-MOS - TC74VHCU04FT | |
| IC3J01 | 271P060010 | IC - CXA2188Q | |
| IC54Z1 | 275P657050 | IC-C-MOS - 24LC256T-I/SN | |
| IC54Z3 | 276P174010 | IC-C-MOS - AT24C512N-10S1-2.7 | |
| IC54Z4 | 270P880010 | IC - 24LC64I/SN | |
| **IC5A01** | **276P114010** | **IC-C-MOS - Sil 9190** | |
| **IC5A03** | **261P837010** | **TR-CHIP - UPA672T** | |
| IC5G01 | 271P071010 | IC - BA033SFP | |
| IC5H01 | 270P998010 | IC-C-MOS - LM317EMP | |
| IC5J01 | 275P778010 | IC-C-MOS - AD7196AKS | |
| IC5J10 | 279P069030 | IC - SN74LVTH244APW | |
| IC5J20 | 276P187010 | IC-C-MOS - ICS574MIT | |
| IC5P01 | 276P148010 | IC-C-MOS - ispMACH -4128V-5T100C | |
| IC5T01 | 270P997010 | IC-C-MOS - SM5301AS | |
| IC5U01 | 271P099010 | IC - LD29150PT50R | |
| **IC7A00** | **276P244060** | **M306V7FGFP#U0-V26K1** | |
| IC7A01 | 275P533010 | IC-C-MOS - M24C64WM6T | |
| IC7A02 | 270P706020 | IC - MAX823REUK | |
| IC7A04 | 275P718010 | IC-C-MOS - TC74HC4053FT | |
| IC7D00 | 275P278010 | IC-C-MOS - TC74LVX14FT | |
| IC7D01 | 270P818020 | IC - CXA3506R | |
| IC7DA1 | 267P176010 | HIC - AF-9412 | |
| IC7DB0 | 270P677010 | IC - BA033FP | |
| IC7DC0 | 270P992010 | IC - BA18BC0FP | |
| IC7E01 | 275P894010 | IC-C-MOS - AD9883AKST-110 | |
| IC7E02 | 275P663030 | IC-C-MOS - M4A3-32/32-5VC-48 | |
| IC7H00 | 276P106010 | IC-C-MOS - MB87M1823PFV-ES-BND | |
| IC7K21 | 270P831010 | IC-C-MOS - OPA2350PA | |
| IC7M00 | 276P091010 | IC-C-MOS - M12L64322A-6T | |
| IC7N01 | 275P682010 | IC-C-MOS - TC74VCX16244FT | |
| IC7N02 | 275P682010 | IC-C-MOS - TC74VCX16244FT | |
| IC7P01 | 275P943030 | IC-C-MOS - PIC18F252T-I/SO030 | |
| IC7P03 | 263P154010 | IC-C-MOS - SN74HC132DB | |
| IC7P04 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC7P30 | 275P718010 | IC-C-MOS - TC74HC4053FT | |
| IC7P31 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8001 | 276P030030 | IC-C-MOS - 215H31AGA12H | |
| IC8002 | 270P706020 | IC - MAX823REUK | |
| IC8003 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC8004 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC8101 | 271P033010 | IC - LP2996MRX | |
| IC8102 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC8103 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC8104 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC8105 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC81A1 | 270P991010 | IC - IRU3037CS | |
| IC81A2 | 261P135010 | FET-HEX - IRF7313 | |
| IC81A3 | 270P879030 | IC - SC1566I5M-2.5TR | |
| IC81A4 | 270P992010 | IC - BA18BC0FP | |
| IC81A5 | 270P879030 | IC - SC1566I5M-2.5TR | |
| IC81A6 | 270P037020 | IC - MIC29301-5.0BU | |
| IC81A7 | 270P999010 | IC - NJM2370R09 | |
| IC8205 | 276P042010 | IC-C-MOS - MIC2544-1BM | |
| IC8211 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC8212 | 276P029020 | IC-C-MOS - NT5DS16M16BT-5T | |
| IC8280 | 275P955010 | IC-C-MOS - RTC-8564JE | |
| IC8301 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8302 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8303 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8304 | 274D105090 | D105A9 | |
| IC8305 | 275P956020 | IC-C-MOS - MD2811-D32-V3 | |
| IC8307 | 275P983010 | IC-C-MOS - XR16L2750CM | |
| IC8308 | 276P077010 | IC-C-MOS - ST013T | |
| IC8309 | 275P660020 | IC-C-MOS - CS4341-KSR | |
| IC8310 | 275P270010 | IC-C-MOS - M66010GP | |
| IC8311 | 275P769010 | IC-C-MOS - TC74AC157FT | |
| IC8313 | 276P145010 | IC-C-MOS - MSP4440G QI-C13 | |
| IC8314 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8315 | 275P464010 | IC-C-MOS - TC7WH14FK | |
| IC8316 | 276P064010 | IC-C-MOS - SN74LVC1G125DBV | |
| IC8317 | 275P786010 | IC-C-MOS - TC7SA08FU | |
| IC8401 | 275P624010 | IC-C-MOS - TSB42AA4 | |
| IC8402 | 275P686010 | IC-C-MOS - TSB41AB3PFP | |
| IC8501 | 275P679010 | IC-C-MOS - TC74LCX74FT | |
| IC8502 | 275P124040 | IC-C-MOS - SN74LVC245APWR | |
| IC8503 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8504 | 271P036020 | IC - TPS2221PWPR | |
| IC8505 | 275P677010 | IC-C-MOS - SN74LVC573APWR | |
| IC8506 | 276P065020 | IC-C-MOS - CIMAX(103563) | |
| IC8507 | 275P680010 | IC-C-MOS - TC74VCX257FT | |
| IC8508 | 275P675010 | IC-C-MOS - SN74LV125APWR | |
| IC8509 | 271P036020 | IC - TPS2221PWPR | |
| IC8600 | 275P983010 | IC-C-MOS - XR16L2750CM | |
| IC8601 | 275P122020 | IC-C-MOS - SN74LV32APWR | |
| IC8602 | 275P676010 | IC-C-MOS - SN74LVC139APWR | |
| IC8705 | 275P769010 | IC-C-MOS - TC74AC157FT | |
| IC8706 | 276P145010 | IC-C-MOS - MSP4440G QI-C13 | |
| IC8707 | 276P089010 | IC-C-MOS - TC7W66FU | |
| IC8708 | 271P072030 | IC - LD29150DT50 | |
| IC8709 | 271P082010 | IC - LD1117DT12 | |
| IC8710 | 271P072010 | IC - LD29150DT25 | |
| IC8711 | 295P527010 | TUNER-NTSC DEMODULATOR | |
| IC8712 | 276P109010 | IC-C-MOS - CS4334-KS | |
| IC8713 | 270P938010 | IC - MC33202D | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| IC8719 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8720 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8721 | 270P677030 | IC - BAO9FP | |
| IC8722 | 271P064010 | IC - TA75S01F | |
| IC8723 | 271P072020 | IC - LD29150DT33 | |
| IC8724 | 275P278010 | IC-C-MOS - TC74LVX14FT | |
| IC8800 | 270P877010 | IC - UPC3217GV | |
| IC8801 | 270P877010 | IC - UPC3217GV | |
| IC8802 | 275P464010 | IC-C-MOS - TC7WH14FK | |
| IC8805 | 270P988010 | IC-OP AMP - LM358M | |
| IC8806 | 271P039010 | IC-C-MOS - NXT2003 100C | |
| IC8A00 | 275P980010 | IC-C-MOS - SAA7115HL | |
| IC8A01 | 275P982020 | IC-C-MOS - MT48LC2M32B2P-7 | |
| IC8A02 | 276P111010 | IC-C-MOS - AK5353VT | |
| IC8A03 | 276P112010 | IC-C-MOS - BCM7040 KQL | |
| IC8E00 | 276P175010 | IC-C-MOS - SAA7119E | |
| IC8G00 | 276P254020 | M306H2MC-517FP#10 | |
| IC8G01 | 270P706010 | IC - MAX823 | |
| IC8G02 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8G03 | 276P020010 | IC-C-MOS - SN74LVC2G14DBVR | |
| IC8G04 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8G05 | 275P443010 | IC-C-MOS - TC7SET08H | |
| IC8G06 | 271P023010 | IC - SN74CBTD1G125DBVR | |
| IC8H01 | 270P658030 | IC - CXA2019AQ/T4 | |
| IC8H02 | 271P079010 | IC - CXA2181Q | |
| IC8H10 | 271P071020 | IC - BA09SFP | |
| IC8H20 | 271P099010 | IC - LD29150PT50R | |
| IC8T01 | 270P658030 | IC - CXA2019AQ/T4 | |
| IC8T02 | 271P079010 | IC - CXA2181Q | |
| **IC9A20** | **267P175010** | **HIC - STR-W6735** | |
| **IC9A21** | **270P816010** | **IC - NJM431L** | |
| IC9C10 | 271P010010 | IC - RT9172-18CG | |
| IC9C10 | 271P072020 | IC - LD29150DT33 | |
| IC9C21 | 271P072020 | IC - LD29150DT33 | |
| IC9C41 | 271P072030 | IC - LD29150DT50 | |
| IC9M01 | 270P677010 | IC - BA033FP | |
| IC9M02 | 270P992020 | IC - BA25BC0FP | |
| IC9M03 | 271P071020 | IC - BA09SFP | |
| IC9M04 | 271P099010 | IC - LD29150PT50R | |

## TRANSISTORS

**CHIP Type Transistors (Listed by Part No.)**

| Part No. | Description |
|---|---|
| 260P806010 | DTA124EK/UN2112 |
| 260P817030 | 2SA1037K-S |
| 260P817050 | 2SA1037K-R,S/2SB709AI-R,S |
| 260P817080 | 2SA1037K-R,S |
| 260P818030 | 2SC2412K-S |
| 260P818050 | 2SC2412K-R,S/2SD601AI-R,S |
| 260P818080 | 2SC2412K-R,S |
| 260P836090 | 2SC3326-A,B |
| 260P846030 | DTC143ZKAT146 |
| 261P801010 | 2SA1252-5,6 |

**Conventional Transistors (By Ref #)**

| Ref # | Part # | Part Name & Description |
|---|---|---|
| Q7E03 | 261P114010 | TR - 2SA1585STPR |
| Q8800 | 261P026010 | TR - 2SC3356 |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|

## DIODES

| | | |
|---|---|---|
| D2301 | 262P805050 | D-CHIP - UDZS5.1B |
| D2770 | 262P805050 | D-CHIP - UDZS5.1B |
| D2H01 | 262P075010 | DIODE - RSB6.8S |
| D2H02 | 262P075010 | DIODE - RSB6.8S |
| D5A65 | 262P802010 | D-CHIP - 1SS302 |
| D5A66 | 262P802010 | D-CHIP - 1SS302 |
| D7A00 | 264P828010 | D-CHIP - DAN202U/MA142WK |
| D7K21 | 268P110010 | PHOTO-DIODE - SFH2505FA |
| D7K22 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D7L20 | 262P075010 | DIODE - RSB6.8S |
| D7L21 | 262P099010 | DIODE-LE-CHIP - SML011BBT |
| D81A1 | 264P828010 | D-CHIP - DAN202U/MA142WK |
| D81A2 | 264P828010 | D-CHIP - DAN202U/MA142WK |
| D81A3 | 264P828010 | D-CHIP - DAN202U/MA142WK |
| D81A4 | 262P090010 | DIODE - M1FP3 |
| D81A5 | 264P458050 | DIODE - RD3.9EB1 |
| D8201 | 264P846010 | D-CHIP - MA732 |
| D8202 | 264P846010 | D-CHIP - MA732 |
| D8203 | 264P846010 | D-CHIP - MA732 |
| D8204 | 264P846010 | D-CHIP - MA732 |
| D8280 | 264P808010 | DIODE-CHIP - DAN202K |
| D8701 | 262P132010 | DIODE - MA2Z077 |
| D8702 | 262P132010 | DIODE - MA2Z077 |
| D8703 | 262P132010 | DIODE - MA2Z077 |
| D8704 | 262P132010 | DIODE - MA2Z077 |
| D8800 | 262P089010 | DIODE - MA2S728 |
| D8801 | 262P071070 | DIODE-LE - SML-210FT |
| D8802 | 262P071070 | DIODE-LE - SML-210FT |
| D8803 | 262P071070 | DIODE-LE - SML-210FT |
| D8H10 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| **D9A01** | **262P031010** | **DIODE - D6SB80** |
| D9A02 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A03 | 264P461050 | DIODE - EQA02-06B/RD5.6EB3 |
| D9A04 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A20 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A21 | 264P899010 | DIODE - BYV26E |
| D9A23 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A24 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A25 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A26 | 262P128010 | DIODE - FSH05A06 |
| D9A27 | 262P127010 | DIODE - FSH05A03L |
| D9A28 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A29 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A30 | 264P470070 | DIODE - EQA02-32B/RD33EB3 |
| D9A41 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A42 | 264P045080 | DIODE - 1S2076A/1S2471OM |
| D9A44 | 264P045080 | DIODE - 1S2076A/1S2471OM |

## COILS

| | | |
|---|---|---|
| L1H01 | 321C114010 | COIL-RF - 2200MH-J |
| L1H02 | 325C241030 | COIL-CHIP - 10MH-K |
| L1H51 | 321C114010 | COIL-RF - 2200MH-J |
| L1H52 | 325C241030 | COIL-CHIP - 10MH-K |
| L2011 | 409P777080 | EMI-F-CHIP - BLM21P221S |
| L2012 | 409P777080 | EMI-F-CHIP - BLM21P221S |
| L2061 | 409P777080 | EMI-F-CHIP - BLM21P221S |
| L2071 | 409P777080 | EMI-F-CHIP - BLM21P221S |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| L2111 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2121 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2141 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2151 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2231 | 325C462050 | COIL-PEAKING 100uH-j | |
| L2311 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2321 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2331 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2361 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2371 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2381 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2391 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2441 | 325C462050 | COIL-PEAKING 100uH-j | |
| L2711 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2761 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2801 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2821 | 325C461000 | COIL-PEAKING 5.6uH-J | |
| L2831 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2901 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2902 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2C03 | 325C146090 | COIL-CHIP - 33MH-J | |
| L2H00 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2H01 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J00 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J01 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J20 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J21 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J22 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2J23 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L2K01 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K09 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K58 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K67 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K71 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K80 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2K81 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2K90 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K91 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2K99 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2L12 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2L13 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2L70 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L2M21 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M30 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2M31 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2M35 | 325C241050 | COIL-CHIP - 15MH-K | |
| L2M36 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M38 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2M40 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M41 | 325C461080 | COIL-PEAKING - 27MH-K | |
| L2M42 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M45 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2M46 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L2M50 | 325C461000 | COIL-PEAKING - 5.6MH-K | |
| L2M53 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M70 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M71 | 325C461080 | COIL-PEAKING - 27MH-K | |
| L2M77 | 325C241030 | COIL-CHIP - 10MH-K | |
| L2M81 | 409P777080 | EMI-F-CHIP - BLM21P221S | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| L3A01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A02 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A04 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A05 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A07 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A08 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3A09 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L3J00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5A01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5A18 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5A29 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5A32 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5A35 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5G01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5G02 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H02 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H03 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H04 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H05 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H06 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H07 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H08 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5H09 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L5J01 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L5J10 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L5J20 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L5J35 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L5P04 | 103P509050 | R-M-CHIP - 1/16W 0OHM | |
| L5P05 | 103P509050 | R-M-CHIP - 1/16W 0OHM | |
| L5P06 | 103P509050 | R-M-CHIP - 1/16W 0OHM | |
| L5P12 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L5T01 | 409P865090 | EMI-F-CHIP - BLM11A121S | |
| L7A16 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A19 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A73 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A85 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A88 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A90 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A91 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A92 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7A99 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7D16 | 325C420070 | COIL-CHIP - 10MH-K | |
| L7DA7 | 325C420070 | COIL-CHIP - 10MH-K | |
| L7DF4 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7DF8 | 325C420070 | COIL-CHIP - 10MH-K | |
| L7E00 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L7E01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7E01 | 409P876040 | EMI-F-CHIP - CNF20C221S/CKD510JB1H221S | |
| L7E33 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7E34 | 325C421030 | COIL-CHIP - 100MH-K LOW-R | |
| L7E42 | 325C241050 | COIL-CHIP - 15MH-K | |
| L7E69 | 325C421030 | COIL-CHIP - 100MH-K LOW-R | |
| L7H01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H04 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H29 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H49 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H66 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H73 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7H76 | 409P777080 | EMI-F-CHIP - BLM21P221S | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| L7J13 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7J38 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7J44 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7K01 | 325C421030 | COIL-CHIP - 100MH-K LOW-R | |
| L7K02 | 325C421030 | COIL-CHIP - 100MH-K LOW-R | |
| L7M90 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7N01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7N41 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N42 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N43 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N44 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N45 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N46 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N47 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N48 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N49 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N50 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N51 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N52 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N53 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N54 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N55 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N56 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N57 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N58 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N59 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N60 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N61 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N62 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N63 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N64 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N65 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N66 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N67 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N68 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N70 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7N71 | 409P955020 | EMI-F-CHIP - BLM18BB220SN1 | |
| L7P00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L7P14 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7P20 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L7P30 | 409P777050 | EMI-F-CHIP - BLM21B201S | |
| L8001 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8002 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8003 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8004 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8005 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8006 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8007 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8008 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8009 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8012 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8013 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8017 | 409P865020 | EMI-F-CHIP - BLM11A601S | |
| L8018 | 409P865020 | EMI-F-CHIP - BLM11A601S | |
| L81A1 | 321C140060 | COIL-RF - 2.7MH-M | |
| L81A2 | 351P250010 | COIL-CHOKE - GSTC6018-100M | |
| L81A3 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L81A4 | 321C140060 | COIL-RF - 2.7MH-M | |
| L81A5 | 321C140060 | COIL-RF - 2.7MH-M | |
| L81A6 | 409P777080 | EMI-F-CHIP - BLM21P221S | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| L81A7 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L81A8 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8202 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8203 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8206 | 351P265010 | COIL-CHOKE-CHIP - ACM2012 | |
| L8280 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8301 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8304 | 325C501010 | COIL-CHIP - ALQM21NNR47K10 | |
| L8305 | 325C501010 | COIL-CHIP - ALQM21NNR47K10 | |
| L8307 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8309 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8310 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8311 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8312 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8314 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8315 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8320 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8321 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8322 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8323 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8324 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8326 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8329 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8331 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8332 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8333 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8401 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8403 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8404 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8411 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8412 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8413 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8414 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8415 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8416 | 351P265020 | COIL-CHIP - ACM2012-201-2P | |
| L8501 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8502 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8503 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8504 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8505 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8506 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8507 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8508 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8509 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8510 | 325C241050 | COIL-CHIP - 15MH-K | |
| L8700 | 325C412050 | COIL-CHIP - 100MH-J | |
| L8701 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8702 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8703 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8704 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8705 | 325C412050 | COIL-CHIP - 100MH-J | |
| L8706 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8707 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8717 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8718 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8719 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8722 | 325C420030 | COIL-CHIP - 2.2MH-M | |
| L8723 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8725 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8726 | 409P923060 | EMI-F-CHIP - BLM21B272S | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| L8727 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8729 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8730 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8736 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8737 | 409P865080 | EMI-F-CHIP - BLM18PG6 | |
| L8738 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8739 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8800 | 409P936050 | EMI-F-CHIP - HS800 | |
| L8801 | 409P936050 | EMI-F-CHIP - HS800 | |
| L8802 | 409P936050 | EMI-F-CHIP - HS800 | |
| L8803 | 409P936050 | EMI-F-CHIP - HS800 | |
| L8804 | 409P936050 | EMI-F-CHIP - HS800 | |
| L8807 | 325C414090 | COIL-CHIP - 0.68MH-J | |
| L8809 | 325C410040 | COIL-CHIP - 1.8MH-J | |
| L8914 | 409P923060 | EMI-F-CHIP - BLM21B272S | |
| L8915 | 409P865060 | EMI-F-CHIP - BLM11B141S | |
| L8A00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A02 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A04 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A05 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A06 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A07 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A08 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A10 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8A11 | 325C241030 | COIL-CHIP - 10MH-K | |
| L8A99 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8E00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8E01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8E02 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8E03 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8G00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8G01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H00 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H01 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H03 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H05 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H13 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H24 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H25 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H32 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H82 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H83 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H84 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H85 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H87 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H88 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H90 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8H91 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T03 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T05 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T13 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T24 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T25 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L8T32 | 409P777080 | EMI-F-CHIP - BLM21P221S | |
| L9A20 | 321C141030 | COIL-RF - 10MH-K | |
| L9A21 | 321C141030 | COIL-RF - 10MH-K | |
| L9A22 | 321C141030 | COIL-RF - 10MH-K | |
| L9A23 | 321C141030 | COIL-RF - 10MH-K | |
| **L9D00** | **351P266010** | **LINE-FILTER - ELF22V050BN** | |
| **L9D01** | **351P266020** | **LINE-FILTER - ELF22V025A** | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| LC202 | 409P876020 | EMI-F-CHIP - CNF20C470S/CKD510JB1H470S | |
| LC203 | 409P876020 | EMI-F-CHIP - CNF20C470S/CKD510JB1H470S | |
| LC208 | 409P876020 | EMI-F-CHIP - CNF20C470S/CKD510JB1H470S | |
| LC8001 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8002 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC81A1 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8300 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8301 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8302 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8303 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8304 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8305 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8306 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8307 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8308 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8309 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8310 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8312 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8313 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8314 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8315 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8316 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8317 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8318 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8319 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8320 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8321 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8322 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8323 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8501 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8502 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8503 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8504 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8505 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8506 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8507 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8508 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8509 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8511 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8512 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8514 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8515 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8516 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8517 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8518 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8519 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8520 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8521 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8522 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8523 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8524 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8525 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8526 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8527 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8528 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8529 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8530 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8531 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8603 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8604 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| LC8605 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LC8606 | 409P945010 | EMI-F-CHIP - NFL21SP506X13CD | |
| LF7D02 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D04 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D06 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D08 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D10 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D12 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D14 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D16 | 409P945020 | EMI-F-CHIP - NFL21SP106X1C3D | |
| LF7D18 | 409P945020 | EMI-F-CHIP - NFL21SP106X1C3D | |
| LF7D20 | 409P945020 | EMI-F-CHIP - NFL21SP106X1C3D | |
| LF7D22 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7D24 | 409P944010 | EMI-F-CHIP - NFL21SP107X1 | |
| LF7H13 | 409P865020 | EMI-F-CHIP - BLM11A601S | |
| LF7H14 | 409P865020 | EMI-F-CHIP - BLM11A601S | |
| LF7H22 | 409P865020 | EMI-F-CHIP - BLM11A601S | |
| LF7H24 | 409P865020 | EMI-F-CHIP - BLM11A601S | |

## TRANSFORMERS

| | | | |
|---|---|---|---|
| T2310 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2320 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2330 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2340 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2830 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2860 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2910 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T2961 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T5A21 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T5A24 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T5A27 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| T5A30 | 409P961010 | CHIP-FILTER - ACM2012D-9002P | |
| **T9A20** | **350P824010** | **TRANS-PWR - ER35TM075** | |

## VARIABLE RESISTORS

| | | | |
|---|---|---|---|
| RV2311 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2321 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2331 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2341 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2351 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2361 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2371 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2381 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2401 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2411 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2761 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2771 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2831 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2841 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2861 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2871 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2911 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2921 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2961 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV2971 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A21 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A22 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A24 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A25 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A27 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| RV5A28 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A30 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| RV5A31 | 265P804010 | VARISTOR-CHIP - 0603 PULSE GUARD | |
| **RV9D00** | **265P100020** | **VAR - ERZV10D271CS** | |

## RESISTORS

**CHIP Type Resistors (Listed by Value)**

| Part No. | Value | Part No. | Value |
|---|---|---|---|
| 103P509050 | 1/16W 0OHM | 103P502060 | 1/16W 1.2K-J |
| 103P409050 | 1/8W 0OHM | 103P492080 | 1/16W 1.3K-F |
| 103P489050 | 1/4W 00HM | 103P492090 | 1/16W 1.5K-F |
| 103P508040 | 1/16W 2.2-J | 103P502070 | 1/16W 1.5K-J |
| 103P508080 | 1/16W 4.7-J | 103P472090 | 1/8W 1.5K-F |
| 103P509000 | 1/16W 6.8-J | 103P493010 | 1/16W 1.8K-F |
| 103P500010 | 1/16W 10-J | 103P502080 | 1/16W 1.8K-J |
| 103P793000 | 1/16W 16-F | 103P493020 | 1/16W 2K-F |
| 103P910040 | 1/16W 18-J | 103P493030 | 1/16W 2.2K-F |
| 103P400050 | 1/10W 22-J | 103P502090 | 1/16W 2.2K-J |
| 103P500050 | 1/16W 22-J | 103P402090 | 1/8W 2.2K-J |
| 103P910050 | 1/16W 22-Jx4 | 103P493040 | 1/16W 2.4K-F |
| 103P500060 | 1/16W 27-J | 103P493050 | 1/16W 2.7K-F |
| 103P400070 | 1/10W 33-J | 103P503000 | 1/16W 2.7K-J |
| 103P500070 | 1/16W 33-J | 103P493060 | 1/16W 3K-F |
| 103P910070 | 1/16W 33-Jx4 | 103P493070 | 1/16W 3.3K-F |
| 103P793080 | 1/16W 36F | 103P503010 | 1/16W 3.3K-J |
| 103P500080 | 1/16W 39-J | 103P503020 | 1/16W 3.9K-J |
| 103P794010 | 1/16W 47-F | 103P494000 | 1/16W 4.3K-F |
| 103P500090 | 1/16W 47-J | 103P494010 | 1/16W 4.7K-F |
| 103P844030 | 1/16W 56-D | 103P503030 | 1/16W 4.7K-J |
| 103P501000 | 1/16W 56-J | 103P494020 | 1/16W 5.1K-F |
| 103P911000 | 1/16W 56-Jx4 | 103P494030 | 1/16W 5.6K-F |
| 103P401000 | 1/10W 56-J | 103P503040 | 1/16W 5.6K-J |
| 103P501010 | 1/16W 68-J | 103P814040 | 1/16W 6.2K-D |
| 103P489090 | 1/4W 75-J | 103P494050 | 1/16W 6.8K-F |
| 103P794060 | 1/16W 75-F | 103P503050 | 1/16W 6.8K-J |
| 103P509090 | 1/16W 75-J | 103P494070 | 1/16W 8.2K-F |
| 103P501020 | 1/16W 82-J | 103P503060 | 1/16W 8.2K-J |
| 103P401030 | 1/10W 100-J | 103P494090 | 1/16W 10K-F |
| 103P501030 | 1/16W 100-J | 103P503070 | 1/16W 10K-J |
| 103P501040 | 1/16W 120-J | 103P913070 | 1/16W 10K-Jx4 |
| 103P810050 | 1/16W 150-D | 103P495010 | 1/16W 12K-F |
| 103P490050 | 1/16W 150-F | 103P503080 | 1/16W 12K-J |
| 103P501050 | 1/16W 150-J | 103P495020 | 1/16W 13K-F |
| 103P490070 | 1/16W 180-F | 103P495030 | 1/16W 15K-F |
| 103P490080 | 1/16W 200-F | 103P503090 | 1/16W 15K-J |
| 103P490090 | 1/16W 220-F | 103P495050 | 1/16W 18K-F |
| 103P501070 | 1/16W 220-J | 103P504000 | 1/16W 18K-J |
| 103P481070 | 1/4W 220-J | 103P504010 | 1/16W 22K-J |
| 103P491000 | 1/16W 240-F | 103P495080 | 1/16w 24K-F |
| 103P501080 | 1/16W 270-J | 103P495090 | 1/16W 27K-F |
| 103P471010 | 1/8W 270-F | 103P504030 | 1/16W 33K-J |
| 103P491020 | 1/16W 300-F | 103P496010 | 1/16W 33K-F |
| 103P491030 | 1/16W 330-F | 103P504040 | 1/16W 39K-J |
| 103P501090 | 1/16W 330-J | 103P504050 | 1/16W 47K-J |
| 103P491040 | 1/16W 360-F | 103P496060 | 1/16W 51K-F |
| 103P491050 | 1/16W 390-F | 103P496070 | 1/16W 56K-F |
| 103P502000 | 1/16W 390-J | 103P504060 | 1/16W 56K-J |
| 103P491070 | 1/16W 470-F | 103P504070 | 1/16W 68K-J |
| 103P502010 | 1/16W 470-J | 103P497030 | 1/16W 100K-F |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|

| Part No. | Value | Part No. | Value |
|---|---|---|---|
| 103P491080 | 1/16W 510-F | 103P504090 | 1/16W 100K-J |
| 103P491090 | 1/16W 560-F | 103P497050 | 1/16W 120K-F |
| 103P502020 | 1/16W 560-J | 103P505000 | 1/16W 120K-J |
| 103P492010 | 1/16W 680-F | 103P505030 | 1/16W 220K-J |
| 103P502030 | 1/16W 680-J | 103P498020 | 1/16W 240K-F |
| 103P492030 | 1/16W 820-F | 103P505050 | 1/16W 330K-J |
| 103P502040 | 1/16W 820-J | 103P505090 | 1/16W 680K-J |
| 103P492050 | 1/16W 1K-F | 103P506000 | 1/16W 820K-J |
| 103P502050 | 1/16W 1K-J | 103P506010 | 1/16W 1M-J |
| 103P492070 | 1/16W 1.2K-F | | |

## RESISTORS

**Conventional Resistors (By Ref #)**

| Ref # | Part # | Part Name & Description |
|---|---|---|
| R2814 | 103C398040 | R-METAL-P - 3W 2.2-K |
| R2816 | 103C298010 | R-METAL-CP - 3W 1.2-J |
| R2817 | 103C288040 | R-METAL-CP - 2W 2.2-J |
| R2H15 | 103C180020 | R-METAL - 2W 12-J |
| R2H16 | 103C180020 | R-METAL - 2W 12-J |
| R5G01 | 103C398050 | R-METAL-P - 3W 2.7-K |
| R7E12 | 103C178010 | R-METAL - 1W 1.2-J |
| R7K36 | 103P710090 | R-CARBON - 1/4W 47-J |
| R8798 | 103C288040 | R-METAL-CP - 2W 2.2-J |
| R8H10 | 103C298050 | R-METAL-CP - 3W 2.7-J |
| R8H20 | 103P719050 | R-CARBON - 1/4W 0OHM (MAX 3A) |
| R9A02 | 109P179010 | R-CEMENT-PLATE - 6.8-J |
| **R9A03** | **109C010010** | **R-COMP - 1/2W 1M-K** |
| **R9A05** | **109C010010** | **R-COMP - 1/2W 1M-K** |
| **R9A06** | **109C010010** | **R-COMP - 1/2W 1M-K** |
| R9A09 | 103P145030 | R-CARBON - 1/2W 220K-J |
| R9A11 | 103P145030 | R-CARBON - 1/2W 220K-J |
| R9A18 | 103P145020 | R-CARBON - 1/2W 180K-J |
| R9A20 | 103P144020 | R-CARBON - 1/2W 27K-J |
| R9A21 | 103P144020 | R-CARBON - 1/2W 27K-J |
| R9A22 | 103C187030 | R-METAL - 2W 0.27-J |
| R9A25 | 103P142050 | R-CARBON - 1/2W 1K-J |
| R9A26 | 109D151090 | R-CARBON - 1/4W 33-J |
| R9A27 | 109D151050 | R-CARBON - 1/4W 75-J |
| R9A38 | 103P144090 | R-CARBON - 1/2W 100K-J |
| **R9D00** | **109D036020** | **R-COMP - 1/2W 4.7M-K** |
| R9M00 | 103C288030 | R-METAL-CP - 2W 1.8-J |

## CAPACITORS

**CHIP Type Capacitors (Listed by Value)**

| Part No. | Value | Part No. | Value |
|---|---|---|---|
| 154P340010 | CK50V 1P-C | 141P142050 | B25V 0.022M-K |
| 154P340030 | CK50V 2P-C | 141P142090 | B25V 0.047M-K |
| 154P340060 | CK50V 5P-C | 141P143020 | B16V 0.082M-K |
| 154P340080 | CH50V 7P-C | 141P143030 | B16V 0.1M-K |
| 154P341010 | CH50V 10P-C | 141P139030 | B25V 0.1M-K |
| 154P341030 | CH50V 12P-J | 141P144020 | F25V 0.1M-Z |
| 154P341050 | CH50V 15P-J | 141P134090 | F50V 0.1M-Z |
| 154P341070 | CH50V 18P-J | 141P135080 | F50V/25V 0.1M-Z |
| 154P341090 | CH50V 22P-J | 141P138080 | B25V 0.33M-K |
| 154P342010 | CH50V 27P-J | 141P146080 | B10V 0.47M-K |
| 154P352020 | SL50V 27P-J | 141P139090 | B16V 0.47M-K |
| 154P342030 | CH50V 33P-J | 181P526010 | 50V 1M-M |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|

| Part No. | Value | Part No. | Value |
|---|---|---|---|
| 154P342050 | CH50V 39P-J | 141P134070 | B16V 1M-K |
| 154P342070 | CH50V 47P-J | 141P135070 | F16V 1M-Z |
| 154P342070 | CH50V 47P-J | 141P142020 | B50V 0.012M-K |
| 154P342090 | CH50V 56P-J | 141P144060 | F25V 1M-Z |
| 154P343010 | CH50V 68P-J | 141P147020 | B10V/6.3V 1M-K |
| 154P343050 | CH50V 100P-J | 181P526020 | 50V 2.2M-M |
| 154P343070 | CH50V 120P-J | 141P147040 | B6.3V 2.2M-K |
| 154P344010 | CH50V 180P-J | 141P133010 | B10V 3.3M-M |
| 141P140010 | B50V 220P-K | 181P808070 | 16V 4.7M-M |
| 154P344030 | CH50V 220P-J | 181P532020 | 16V 4.7M-M 105C |
| 154P354040 | SL50V 220P-J | 181P524090 | 35V 4.7M-M 105C |
| 154P344050 | CH50V 270P-J | 141P147060 | B6.3V 4.7M-K |
| 141P140050 | B50V 470P-K | 181P508080 | 16V 10M-M |
| 154P345010 | CH50V 470P-J | 181P522030 | 16V 10M-M 105C |
| 154P345030 | CH25V 560P-J | 181P532030 | BP16V 10M-M 105C |
| 154P345050 | CH25V 680P-J | 181P525000 | 35V 10M-M 105C |
| 154P345070 | CH25V 820P-J | 181P522040 | 16V 22M-M 105C |
| 141P140090 | B50V 1000P-K | 181P520010 | 6.3V 22M-M 105C |
| 141P143050 | F50V 1000P-Z | 181P502060 | 16V 47M-M |
| | /B50V 1000P-K | 181P500030 | 6.3V 47M-M |
| 154P345090 | CH25V 1000P-J | 181P520030 | 6.3V 47M-M |
| 141P141010 | B50V 1500P-K | 181P522060 | 6V 47M-M |
| 141P141030 | B50V 2200P-K | 181P502070 | 16V 100M-M |
| 141P141050 | B50V 3300P-K | 181P520040 | 6.3V 100M-M |
| 141P141070 | B50V 4700P-K | 181P528010 | 4V 220M-M 105C |
| 141P142000 | B50V 8200P-K | 181P500060 | 6.3V 220M-M |
| 141P143080 | F50V 0.01M-Z | 181P520050 | 6.3V 220M-M 105C |
| 141P142010 | B50V 0.01M-K | | |
| 141P133080 | B50V 0.01M-Z | | |

## CAPACITORS AND TRIMMERS

**Conventional Capacitors (By Ref #)**

| Ref # | Part # | Part Name & Description |
|---|---|---|
| C1H05 | 172P262010 | C-M-POLY - 50V 0.047M-J |
| C1H55 | 172P262010 | C-M-POLY - 50V 0.047M-J |
| C2L03 | 181P351080 | C-ELEC - 10V 1000M-M |
| C2M28 | 181P351080 | C-ELEC - 10V 1000M-M |
| C2M29 | 181P351080 | C-ELEC - 10V 1000M-M |
| C2824 | 181P351050 | C-ELEC 10V 220M-M |
| **C5A01** | **141P140090** | **C-CER-CHIP - B50V 1000P-K** |
| **C7A00** | **154P345050** | **C-CER-CHIP - CH25V 680P-J** |
| C81A2 | 181P182030 | C-ELEC - 16V 1000M-M 105C |
| C81A3 | 181P182030 | C-ELEC - 16V 1000M-M 105C |
| C81B3 | 181P182030 | C-ELEC - 16V 1000M-M 105C |
| C81B4 | 181P182030 | C-ELEC - 16V 1000M-M 105C |
| C8281 | 189P197020 | C-ELE-DBL-LA - FM0H473Z/EECS5R5T473Z |
| C8702 | 181P355090 | C-ELEC - 50V 100M-M |
| C8703 | 181P185060 | C-ELEC - 50V 10M-M 105C |
| C8705 | 181P184020 | C-ELEC - 35V 100M-M |
| C8708 | 181P185090 | C-ELEC - 50V 47M-M 105C |
| C8710 | 181P181000 | C-ELEC - 10V 330M-M 105C |
| C8717 | 181P352060 | C-ELEC - 16V 330M-M |
| C8719 | 181P352060 | C-ELEC - 16V 330M-M |
| C8720 | 181P185060 | C-ELEC - 50V 10M-M 105C |
| C8725 | 181P352060 | C-ELEC - 16V 330M-M |
| C8727 | 181P181000 | C-ELEC - 10V 330M-M 105C |
| C8729 | 181P352060 | C-ELEC - 16V 330M-M |
| C8733 | 181P352060 | C-ELEC - 16V 330M-M |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| C8736 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8738 | 181P352060 | C-ELEC - 16V 330M-M | |
| C8742 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8748 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8749 | 181P184020 | C-ELEC - 35V 100M-M | |
| C8751 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8754 | 181P184020 | C-ELEC - 35V 100M-M | |
| C8760 | 181P352030 | C-ELEC - 16V 47M-M | |
| C8761 | 181P352060 | C-ELEC - 16V 330M-M | |
| C8765 | 181P352030 | C-ELEC - 16V 47M-M | |
| C8772 | 181P181000 | C-ELEC - 10V 330M-M 105C | |
| C8773 | 181P353020 | C-ELEC - 25V 10M-M | |
| C8780 | 181P353060 | C-ELEC - 25V 330M-M | |
| C8786 | 181P352030 | C-ELEC - 16V 47M-M | |
| C8788 | 181P352060 | C-ELEC - 16V 330M-M | |
| C8790 | 181P355030 | C-ELEC - 50V 3.3M-M | |
| C8792 | 181P353020 | C-ELEC - 25V 10M-M | |
| C8795 | 181P352030 | C-ELEC - 16V 47M-M | |
| C8797 | 181P353060 | C-ELEC - 25V 330M-M | |
| C8798 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87A0 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87A1 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87A3 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87A4 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87A7 | 181P353060 | C-ELEC - 25V 330M-M | |
| C87C1 | 181P184020 | C-ELEC - 35V 100M-M | |
| C87C4 | 181P350050 | C-ELEC - 6.3V 470M-M | |
| C8840 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8844 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8845 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8847 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8848 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8852 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| C8853 | 181P185060 | C-ELEC - 50V 10M-M 105C | |
| **C9A08** | **189P185090** | **C-CER - AC250V E2200P-M** | |
| **C9A09** | **189P185090** | **C-CER - AC250V E2200P-M** | |
| **C9A10** | **189P185090** | **C-CER - AC250V E2200P-M** | |
| **C9A11** | **189P185090** | **C-CER - AC250V E2200P-M** | |
| **C9A13** | **189P152070** | **C-M-POLY - 250VAC 0.01M-M** | |
| **C9A14** | **189P152050** | **C-M-POLY - 250VAC 4700P-M** | |
| **C9A20** | **154P232020** | **C-CER - B1KV 1000P-K** | |
| **C9A21** | **181P355050** | **C-ELEC - 50V 10M-M** | |
| C9A25 | 172P138010 | C-POLY - 50V 4700P-J | |
| C9A26 | 185D122050 | C-ELEC - H200V 1000M-M | |
| C9A29 | 181P355050 | C-ELEC - 50V 10M-M | |
| C9A30 | 181P355050 | C-ELEC - 50V 10M-M | |
| C9A32 | 181P735040 | C-ELEC - 25V 1500M-M | |
| C9A33 | 181P735040 | C-ELEC - 25V 1500M-M | |
| C9A34 | 154P400050 | C-CER - B1KV 1000P-K | |
| C9A35 | 181P735010 | C-ELEC - 25V 470M-M | |
| C9A37 | 181P734000 | C-ELEC - 16V 2200M-M 105C | |
| C9A38 | 181P734000 | C-ELEC - 16V 2200M-M 105C | |
| C9A41 | 181P732010 | C-ELEC - 10V 1000M-M 105C | |
| C9A43 | 172P262050 | C-M-POLY - 50V 0.1M-J | |
| **C9D00** | **189P153040** | **C-M-POLY - 250VAC 0.1M-M** | |
| C9D01 | 189P153040 | C-M-POLY - 250VAC 0.1M-M | |
| **C9D02** | **189P153040** | **C-M-POLY - 250VAC 0.1M-M** | |
| CF8H01 | 299P128010 | OSC-CERAMIC - CSB500F2 | |
| CF8T01 | 299P128010 | OSC-CERAMIC - CSB500F2 | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| | | **SWITCHES** | |
| S7L20 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L21 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L22 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L23 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L24 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L25 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L26 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L27 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L28 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| S7L29 | 432P109010 | SW-KEY BOARD - KSHS611BT | |
| SF8800 | 296P171010 | SAW-FILTER - X6892D | |
| SF8801 | 296P172010 | SAW-FILTER - X7303P | |
| | | **MISCELLANEOUS** | |
| | 242D540040 | CABLE - RF PIN-PLUG 150mm | |
| | 242D540050 | CABLE - RF PIN-PLUG 100mm | |
| | 242D540060 | CABLE - RF F-TYPE 160mm | |
| | 246C468020 | AC-INLET | |
| | 299P254020 | IR-EMITTER, 4-HEAD - T-IR-02 W/ | |
| | 299P278020 | FAN EFB0612LA-R00 | |
| | 305P703010 | 2RF-SWITCH | |
| | 411D064010 | FERRITE CORE - HF57SH35X0.8 | |
| | 938P038010 | CARD-READER-UNIT | |
| **F9A01** | **283P144080** | **FUSE - 125V 5A** | |
| **F9A21** | **283P144090** | **FUSE - 125V 10A** | |
| **F9A22** | **283P144090** | **FUSE - 125V 10A** | |
| **F9D00** | **283D131040** | **FUSE - S10A 125A** | |
| HR1 | 452C410010 | CONNECTOR-HDMI | |
| HR2 | 452C410010 | CONNECTOR-HDMI | |
| HT | 452C410010 | CONNECTOR-HDMI | |
| J8301 | 440C393030 | PIN-JACK-BOARD-1P | |
| J8402 | 451P246010 | JACK-1394 - MINI | |
| J8403 | 451P246010 | JACK-1394 - MINI | |
| **K9A50** | **287P111030** | **RELAY-POWER - LKS1AF-12V** | |
| PB | 452C411020 | CONNECTOR-PCCARD | |
| **PC9A21** | **268P058020** | **PHOTO-COUPLER - ON3131-R/ ON3161-R** | |
| **PC9A50** | **268P058020** | **PHOTO-COUPLER - ON3131-R/ ON3161-R** | |
| PJ2J00 | 440C438010 | PIN-JACK-BOARD | |
| PJ2J01 | 440C438020 | PIN-JACK-BOARD | |
| PJ2J04 | 440C433020 | PIN-JACK-BOARD | |
| PJ2J05 | 440C433010 | PIN JACK BOARD | |
| PJ2J09 | 440C433020 | PIN-JACK-BOARD | |
| PJ2J10 | 440C433020 | PIN-JACK-BOARD | |
| PJ2J11 | 440C433020 | PIN-JACK-BOARD | |
| PJ2J14 | 452C393010 | CONNECTOR-DSUB | |
| PJ2J20 | 440C433020 | PIN-JACK-BOARD | |
| PJ2J21 | 451C269010 | AUDIO-JACK | |
| PJ2J22 | 451C242010 | JACK-MICROPHONE | |
| **TU8700** | **295P490040** | **TUNER-TV - ENA46914P4A** | |
| **TU8701** | **295P523020** | **TUNER-NTSC/ATSC** | |
| **TU8702** | **295P524010** | **TUNER-OOB** | |
| X2001 | 285P457010 | QUARTZ-CRYSTAL-UNIT | |
| X2K51 | 285P029030 | QTZ-CRYST - 4.000 MHZ | |
| X2M47 | 285P374050 | QTZ-CRYST - 20.000MHZ | |
| X3E51 | 285P451010 | QTZ-CRYST - 12.288MHz | |
| X7A13 | 285P434020 | QTZ-CRYST - 16.000MHZ | |

| Ref # | Part # | Part Name & Description | [#] |
|---|---|---|---|
| X7J10 | 285P335050 | QTZ-CRYST - 80.000MHZ | |
| X7P09 | 285P434010 | QTZ-CRYST - 8.000MHZ | |
| X8001 | 285P441040 | QTZ-CRYST - 26.1621MHZ | |
| X8301 | 285P434060 | QTZ-CRYST - 14.7456MHZ | |
| X8302 | 285P441030 | QTZ-CRYST - 14.31818MHZ | |
| X8303 | 285P413010 | QTZ-CRYST - 18.432MHZ | |
| X8401 | 285P431020 | QTZ-CRYST - 54.000MHZ | |
| X8402 | 285P410020 | QTZ-CRYST - 24.576MHZ | |
| X8613 | 285P434060 | QTZ-CRYST - 14.7456MHZ | |
| X8701 | 285P413010 | QTZ-CRYST - 18.432MHZ | |
| X8800 | 285P453010 | QTZ-CRYST - 25.140MHZ | |
| X8A00 | 285P387010 | QTZ-CRYST - 24.576MHz | |
| X8A01 | 285P446010 | QTZ-CRYST - 83.33MHZ | |
| X8E00 | 285P387010 | QTZ-CRYST - 24.576MHz | |
| X8G00 | 285P374040 | QTZ-CRYST - 10.000MHZ | |
| X8G01 | 285P374020 | QTZ-CRYST - 3.579545MHZ | |
| X8H12 | 299P259010 | OSC-CERAMIC - CSALA2M6964ZF01-B0 | |
| X8H14 | 285P029030 | QTZ-CRYST - 4.000 MHZ | |
| X8H26 | 285P374020 | QTZ-CRYST - 3.579545MHZ | |
| X8T12 | 299P259010 | OSC-CERAMIC - CSALA2M6964ZF01-B0 | |
| X8T14 | 285P029030 | QTZ-CRYST - 4.000 MHZ | |
| X8T26 | 285P374020 | QTZ-CRYST - 3.579545MHZ | |
| Z7K02 | 938P031010 | UNIT-PREAMP - GP1UM263RK | |
| **Z81A1** | **283P128050** | **FUSE-CHIP - AC125/100V 4A** | |
| **Z81A2** | **283P128050** | **FUSE-CHIP - AC125/100V 4A** | |
| **Z81A3** | **283P128050** | **FUSE-CHIP - AC125/100V 4A** | |
| **Z81A4** | **283P128050** | **FUSE-CHIP - AC125/100V 4A** | |

## PRINTED CIRCUIT BOARDS

| | |
|---|---|
| 934C127001 | ASSY-PWB-TUNER |
| 934C171001 | ASSY-PWB-POWER |
| 934C172001 | ASSY-PWB-TERMINAL1 |
| 934C173001 | ASSY-PWB-TERMINAL2 |
| 934C174001 | ASSY-PWB-CONTROL |
| 934C175001 | ASSY-PWB-DM |
| 934C176001 | ASSY-PWB-E2P |
| 934C177001 | ASSY-PWB-SIGNAL |
| 934C215001 | ASSY-PWB-FAN |

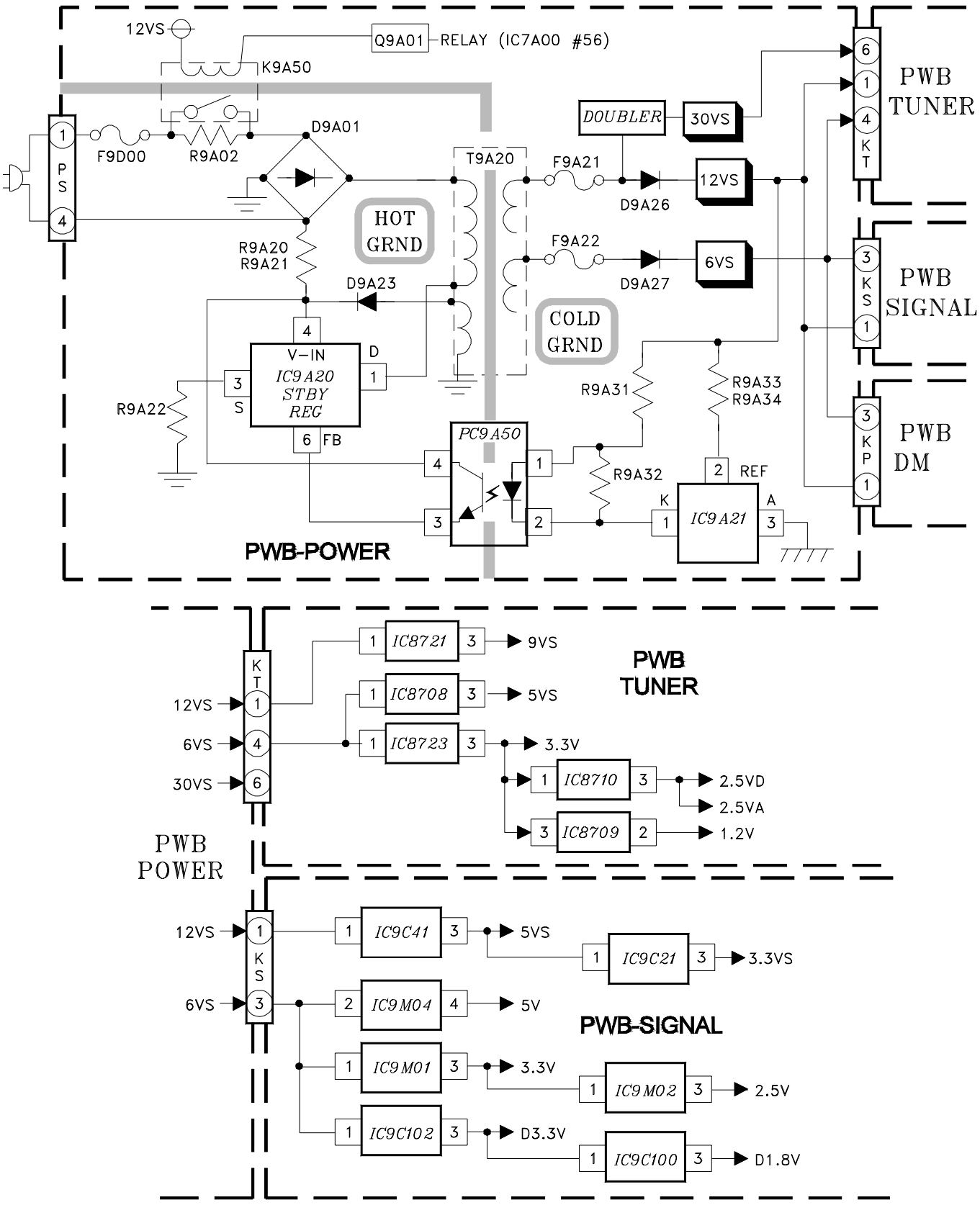
## COSMETIC PARTS

| | |
|---|---|
| 701B531020 | PANEL-FRONT |
| 710A145020 | PANEL-TOP |

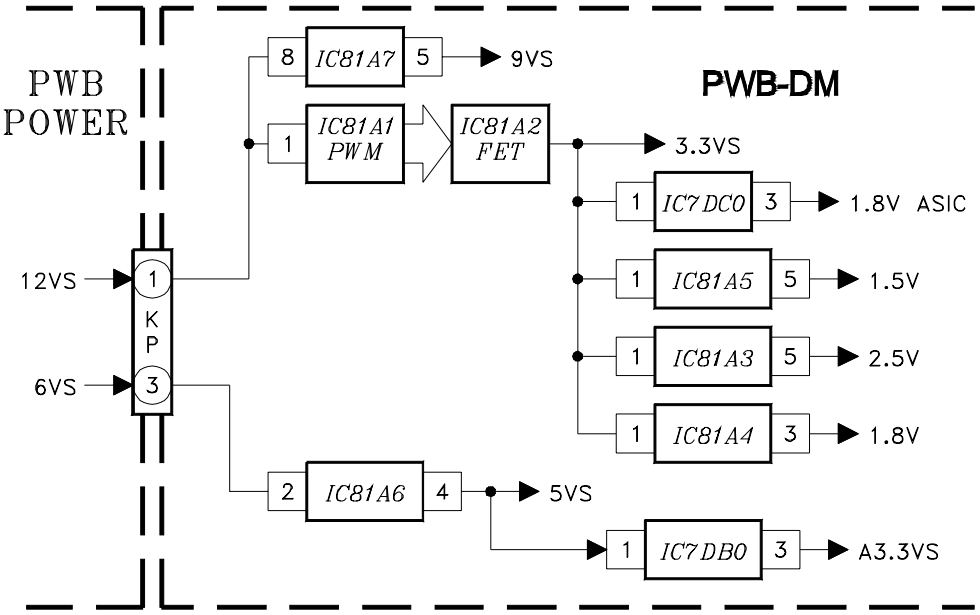
## ACCESSORIES

| | |
|---|---|
| 242D525010 | CABLE - AUDIO - AC3 |
| 246C293010 | CORD - AC-POWER |
| 290P118020 | REMOTE CONTROL |
| I/QR HD4001 | GUIDE - QR |
| I/B HD4001 | IB PCTV |
| 246C472010 | CABLE - 9P SUB |
| 246C505020 | CABLE - HDMI |

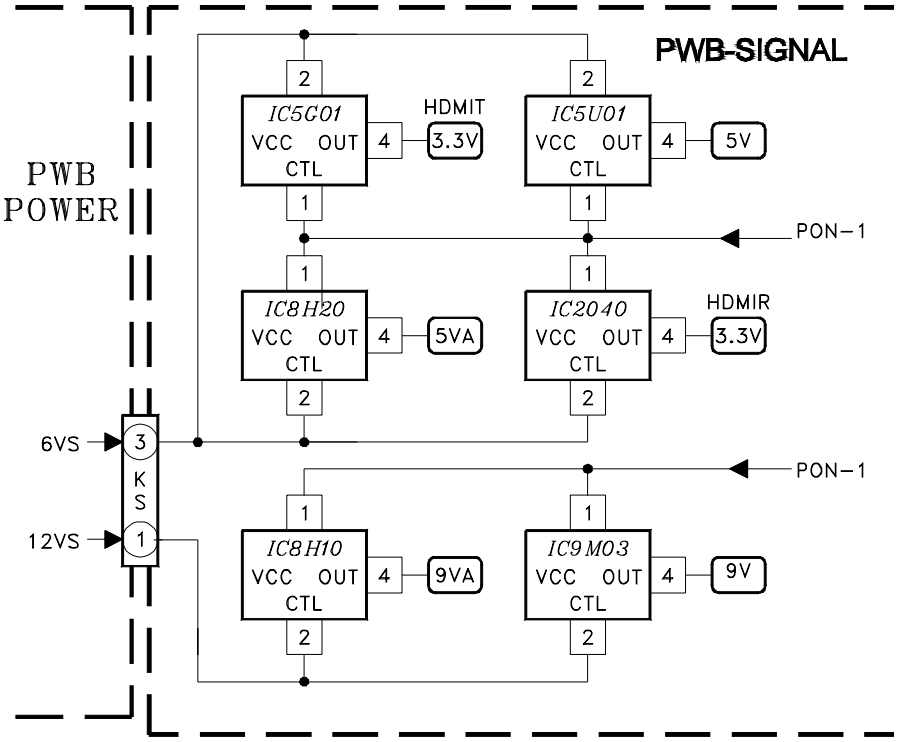
# Standby Supplies

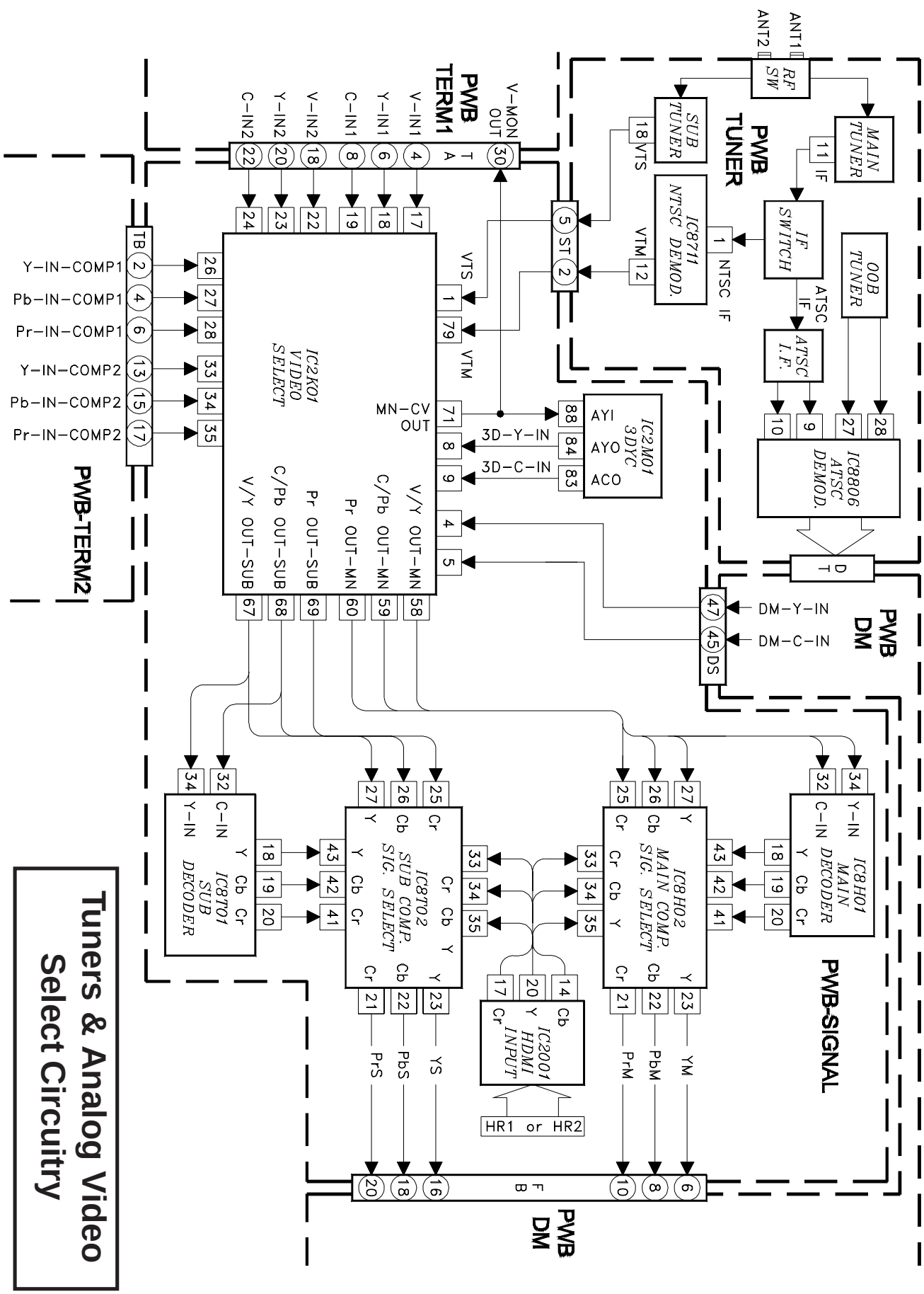


# PWB-DM Power Supplies



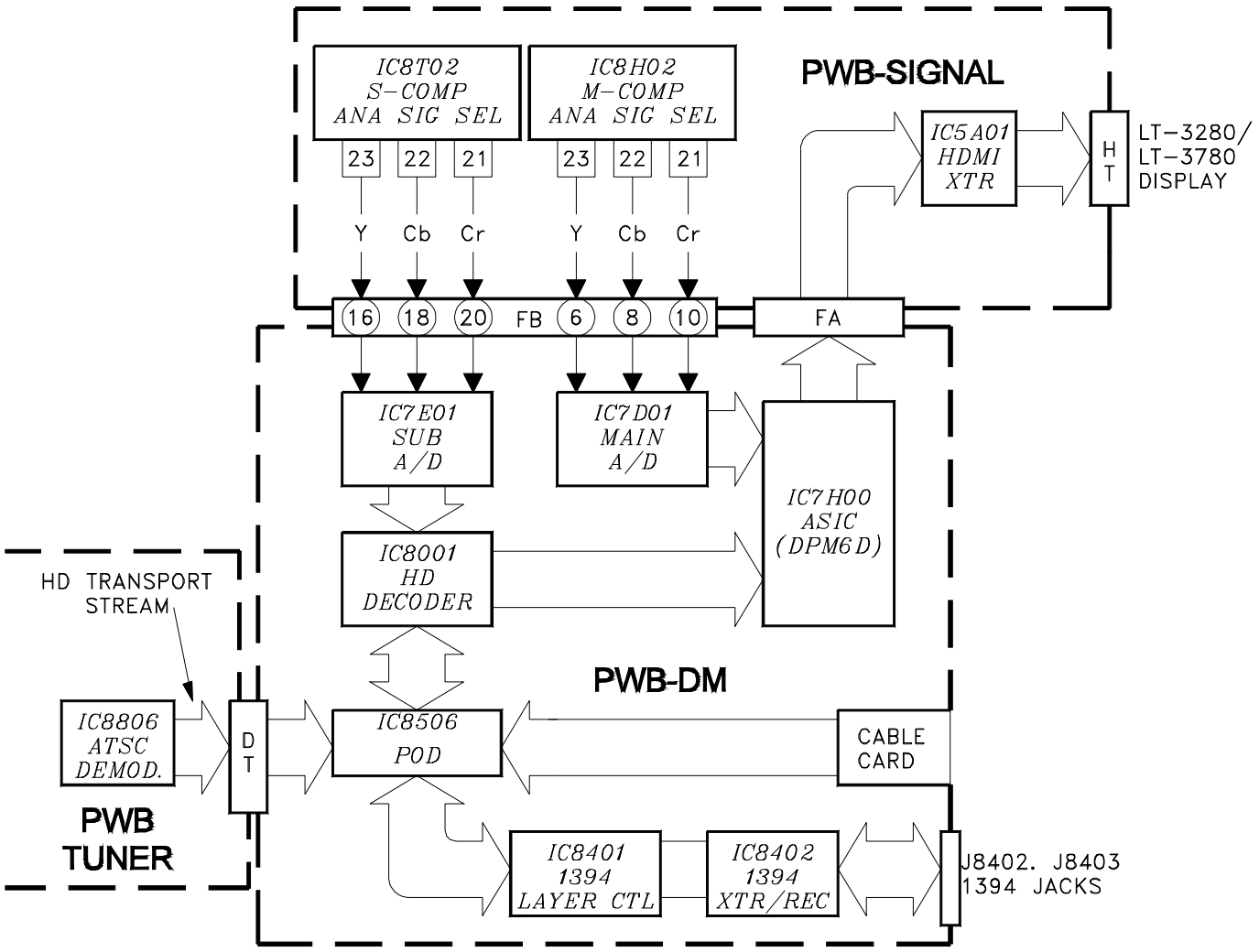

# PWB-SIGNAL Switched Supplies



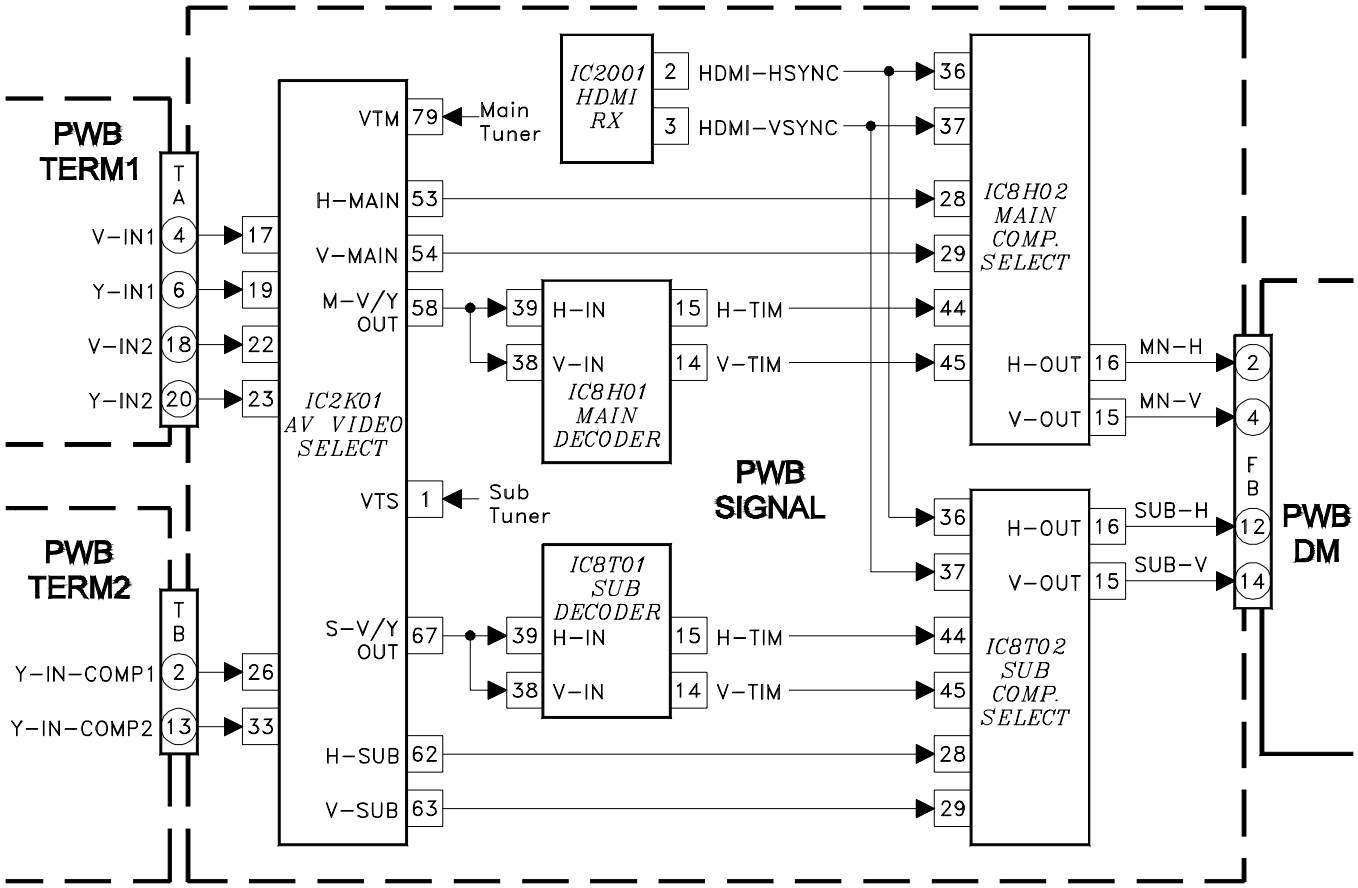



**Tuners & Analog Video Select Circuitry**

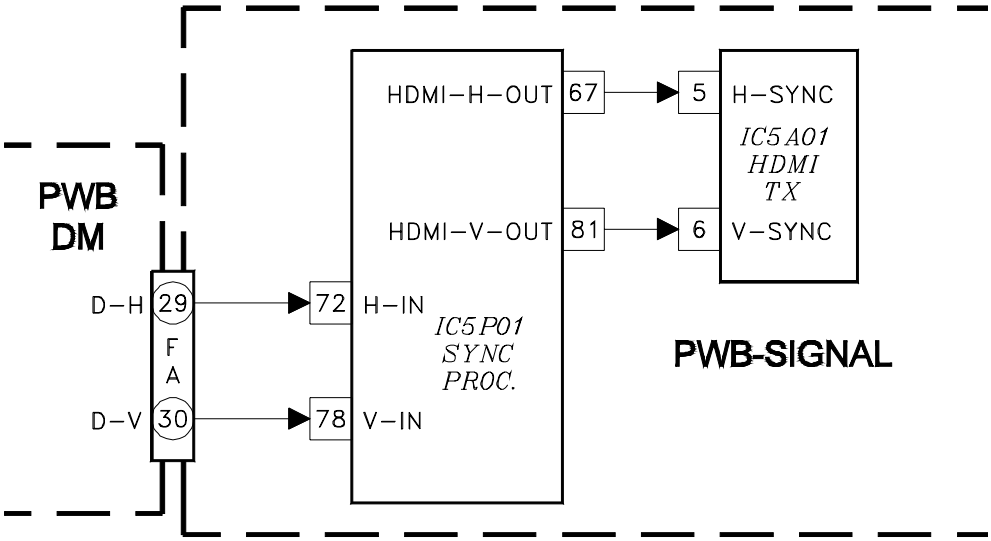
# Digital Video Signal Path



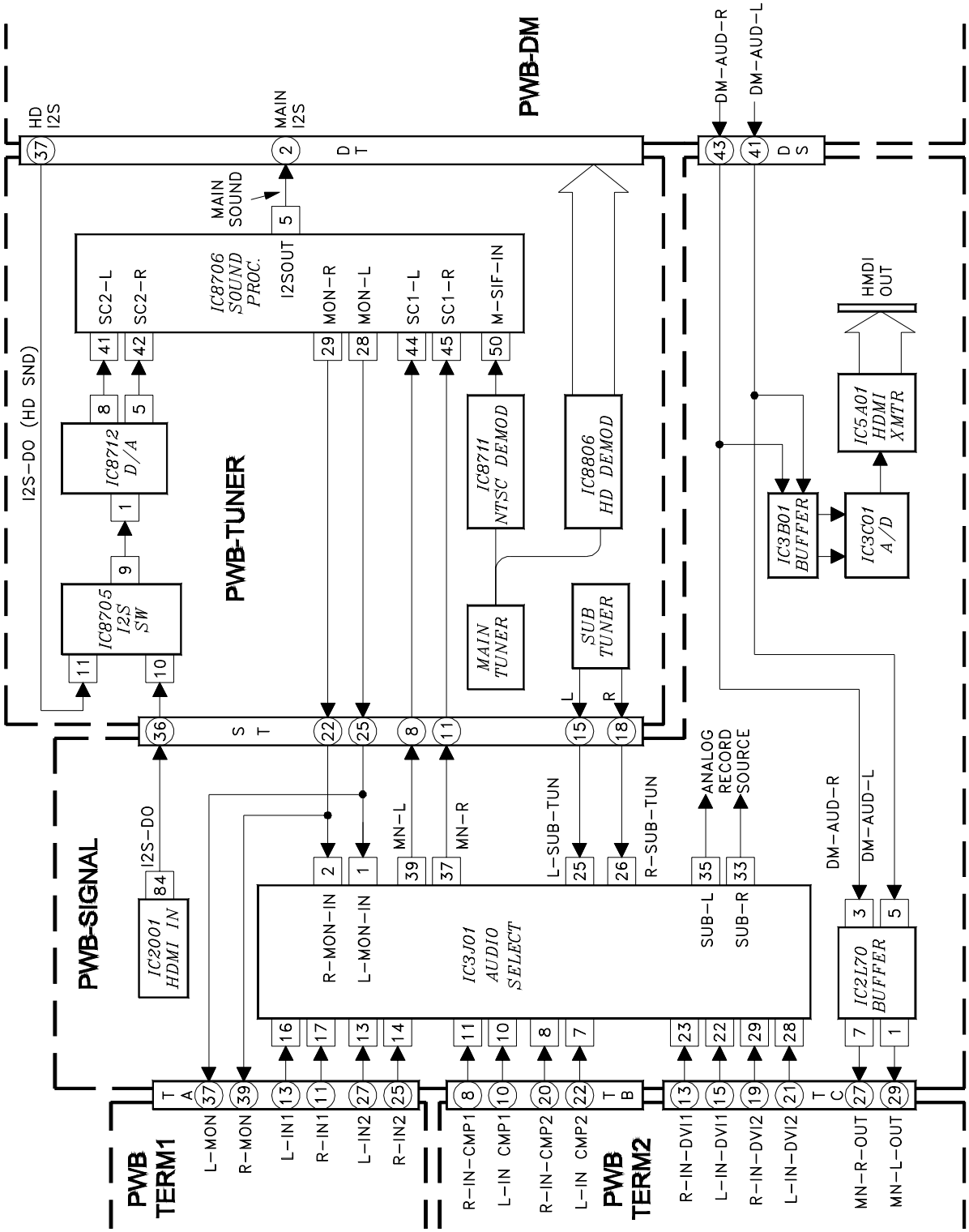
# Sync Signal Selection



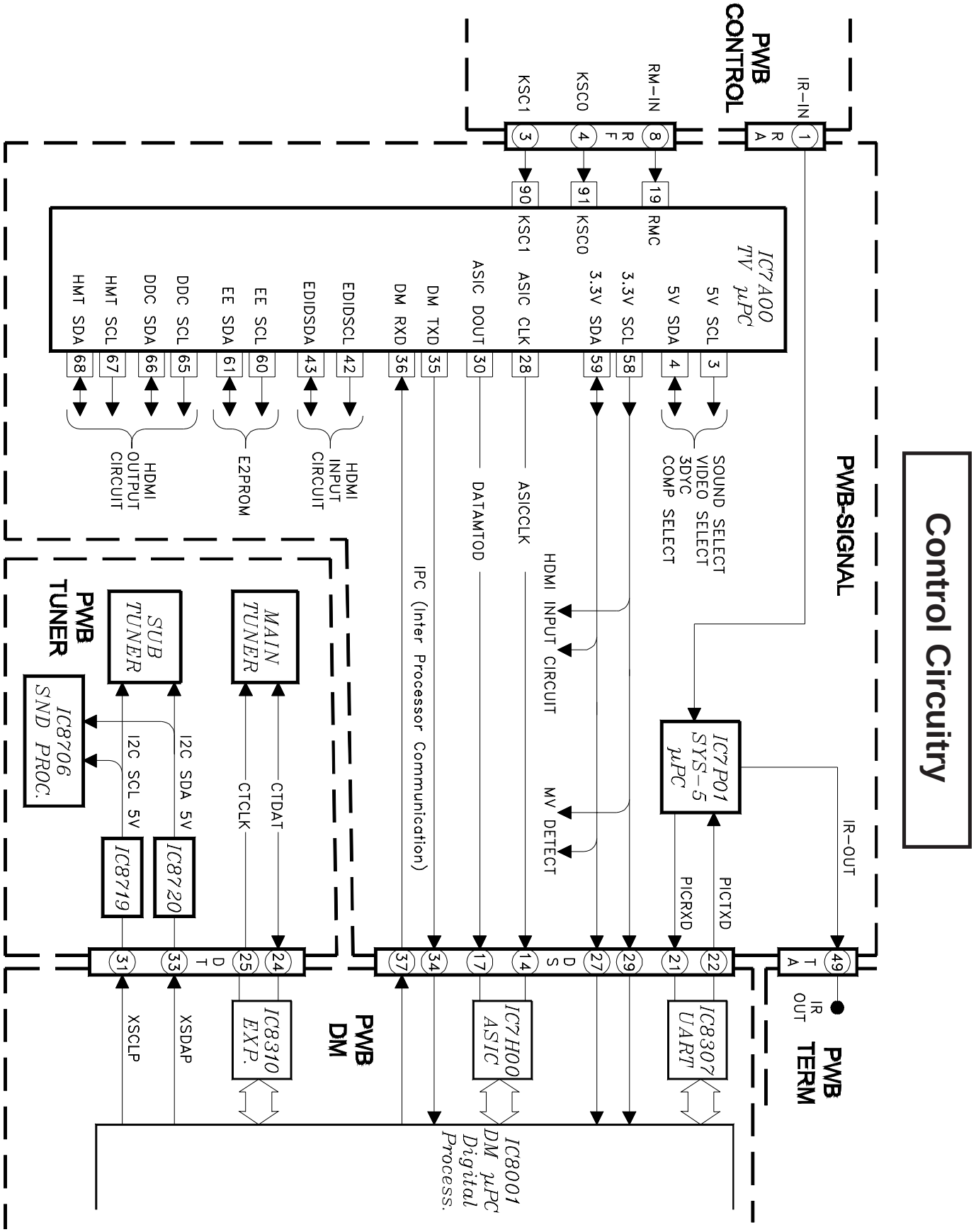

# Sync Output Path



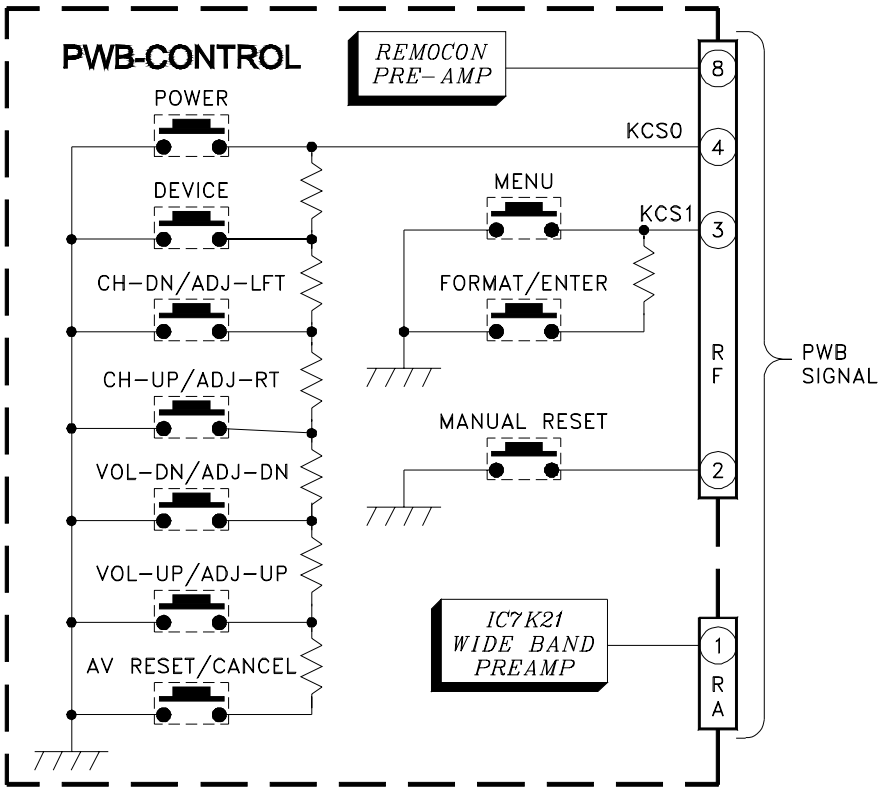
# Sound Signal Path



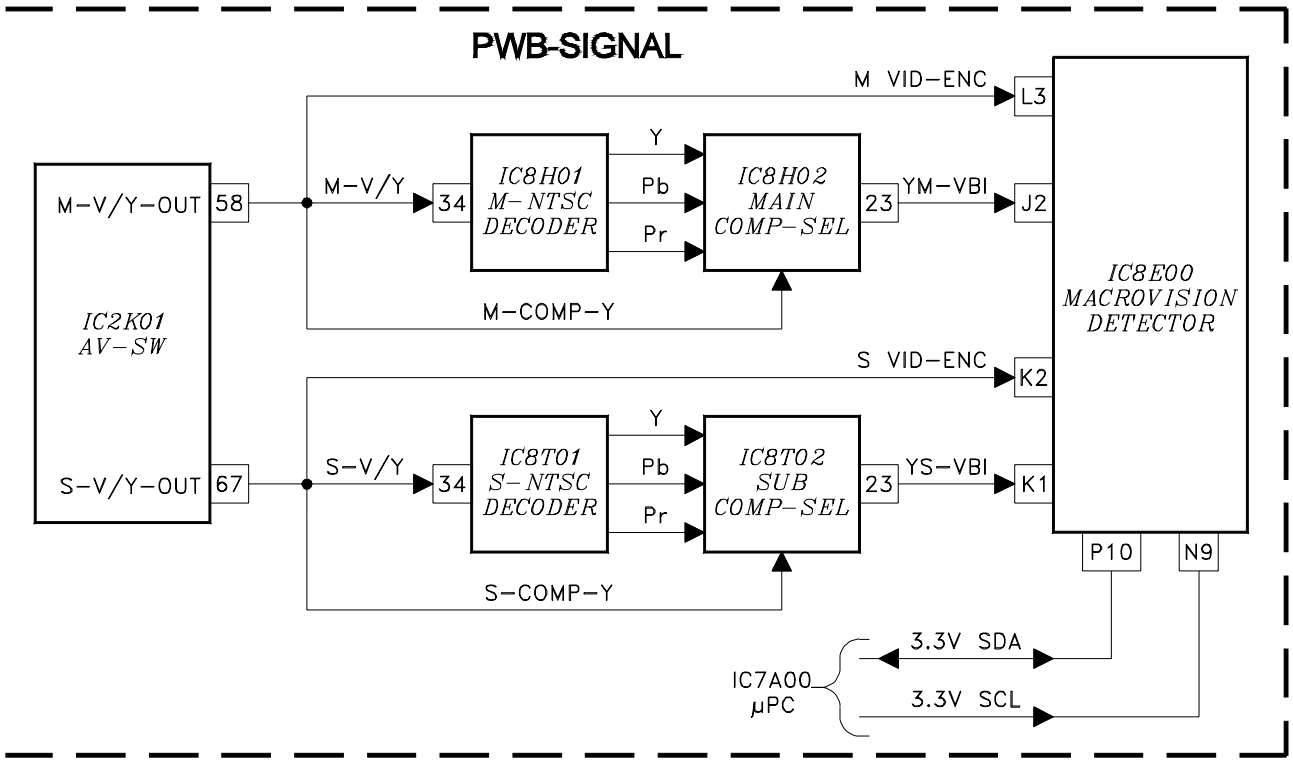
# Control Circuitry

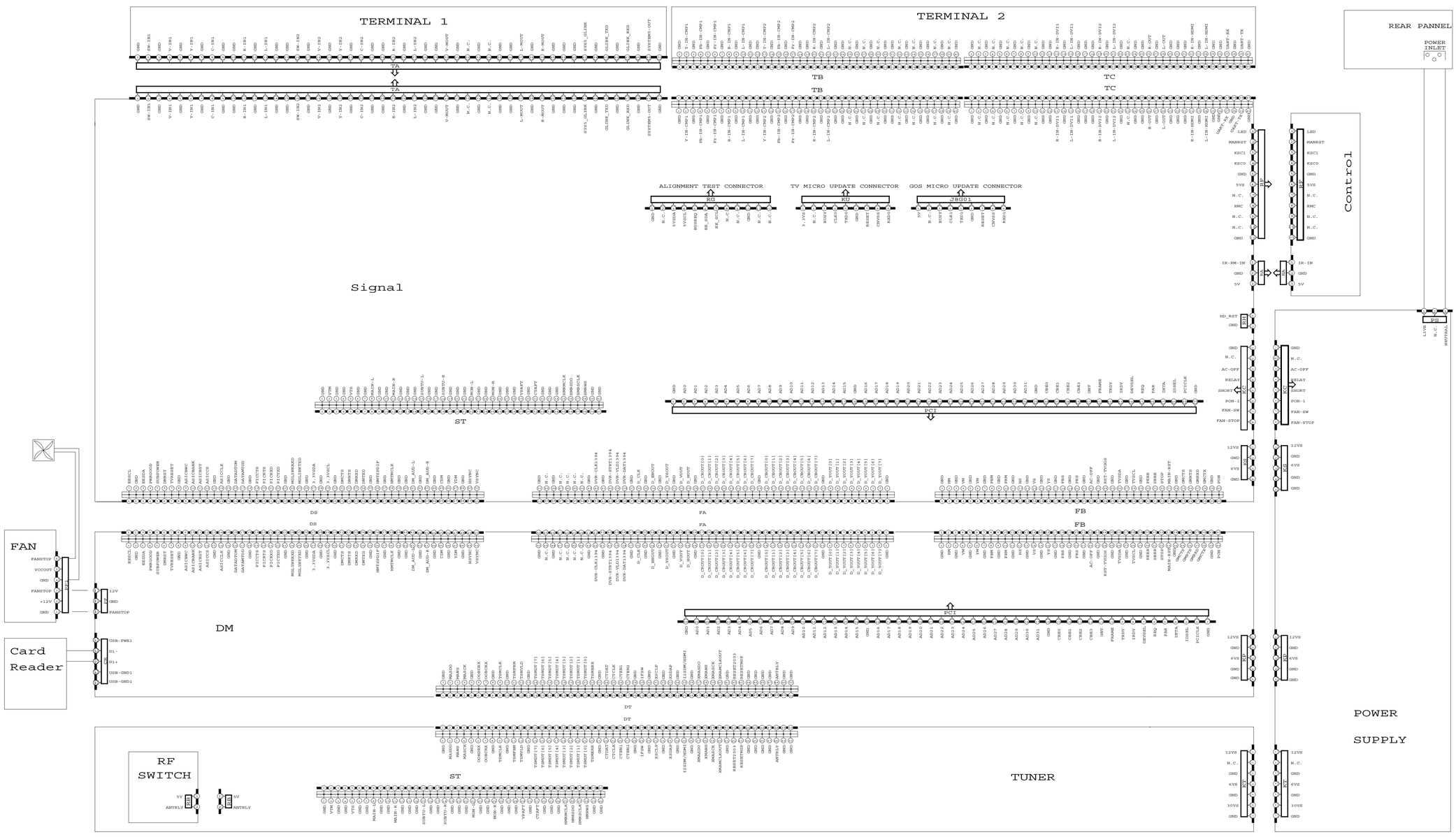


# Command Input Circuitry




# Macrovision Detection






## ★ NOTES

1. DC voltages were measured from points indicated to the circuit ground with a high-Z voltmeter
2. Wave form were taken with standard color bar signal.
3. TP13.etc. show test points.
4. CAPACITOR

| | | |
|---|---|---|
| Value | Not indicated | PF, for numbers more than 1<br>uF, for numbers less than 1 |
| Dielectric strength | Not indicated ; 50V | |
| Tolerance | Not indicated = +/- 10% | No tolerance is indicated for electrolytic capacitor and +/- 20% |
| | G=+/-2% P=+100% Q=+30% C=+/-0.25PF | |
| | J=+/-5% -0% -10% D=+/-0.5PF | |
| | K=+/-10% Z=+80% T=+200% F=+/-1PF | |
| | M=+/-20% -20% -0% D=+/-2PF | |
| Type I Parts except for chips | Not indicated ; Ceramic capacitor | |
| | MY : Polyester capacitor | |
| | PP : Polypropylene film capacitor | |
| | ALM : Aluminus electrolytic capacitor | |
| | TF : Twin film capacitor | |
| | SC : Semiconductor Ceramic capacitor | |
| | MP : Metalised paper | |
| | MPF : Metalised plastic film capacitor | |
| | MPET : Metalised polyester capacitor | |
| | MF_PP : Polyester polypropylene film capacitor | |
| | PS : Styrol capacitor | |
| | TAN : Tantalum capacitor | |
| | : Electrolytic capacitor | |
| | NP : Non polarized electrolytic capacitor | |
| II chips | Not indicated Ceramic capacitor chip | |
| | : Electrolytic capacitor | |
| | NP : Non polarized electrolytic capacitor chip | |
| Characteristic (Only ceramic capacitor) | Not indicated : F or B (high dielectric percentage) | |
| | CH, SL, etc. : Temperature compensating types | |

5. RESITOR

| | | |
|---|---|---|
| Value | Not indicated = Ohm<br>K = 1,000 Ohm<br>M = 1,000,000 Ohm | |
| Wattage | Parts except for chips | Not indicated = 1/4W or 1/6W |
| | Chips | Not indicated = 1/10W |
| Toler ance | Not indicated = +/-5%<br>D = +/-0.5% J = +/-5%<br>F = +/-1% K = +/-10% | |
| Type I Parts except for chips | Not indicated ; Carbon resistor | |
| | R : Fixed composition resistor | |
| | MFR : Metal oxide film resistor(Type B) | |
| | CR : Cemented resistor | |
| | WR : Wire wound resistor | |
| | MR : Metal film resistor | |
| | MPR : Metal plate cement resistor | |
| | MLR : Metal liner resistor | |
| II chips | Not indicated ; chip resistor | |

6. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement

SHADED COMPONENTS HAVE SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY. BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE PRODUCT SAFETY NOTICE IN THE SERVICE MANUAL. DON'T DEGRADE THE SAFETY OF THE RECEIVERS THROUGH IMPROPER SERVICING.

SERVICE TECHNICIAN WARNING;
X-RADIATION PRECAUTION
THIS PRODUCT INCLUES CRITICAL ELECTRICAL AND MECHANICAL PARTS ESSENTIAL FOR X-RADIATION PROTECTION
TO AVOID POSSIBLE TO X-RADIATION TAKE RADIATION PROTECTIVE MEASURE FOR PERSONNEL DURONG SERVICING.
SEE SERVICE INSTRUCTION FOR SPECIFIED REPLACEMENT PARTS AND SERVICE ADJUSTMENTS.

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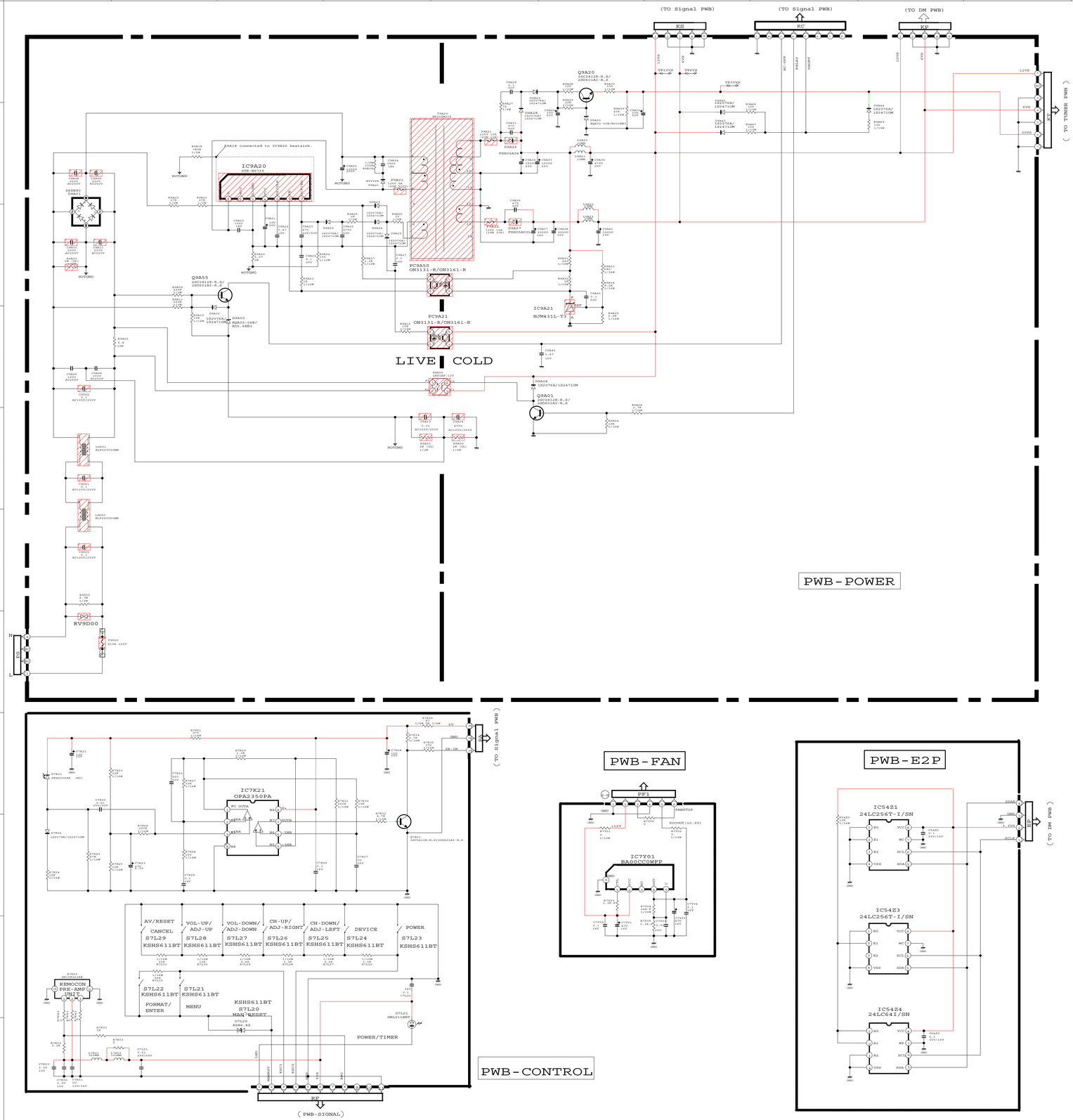


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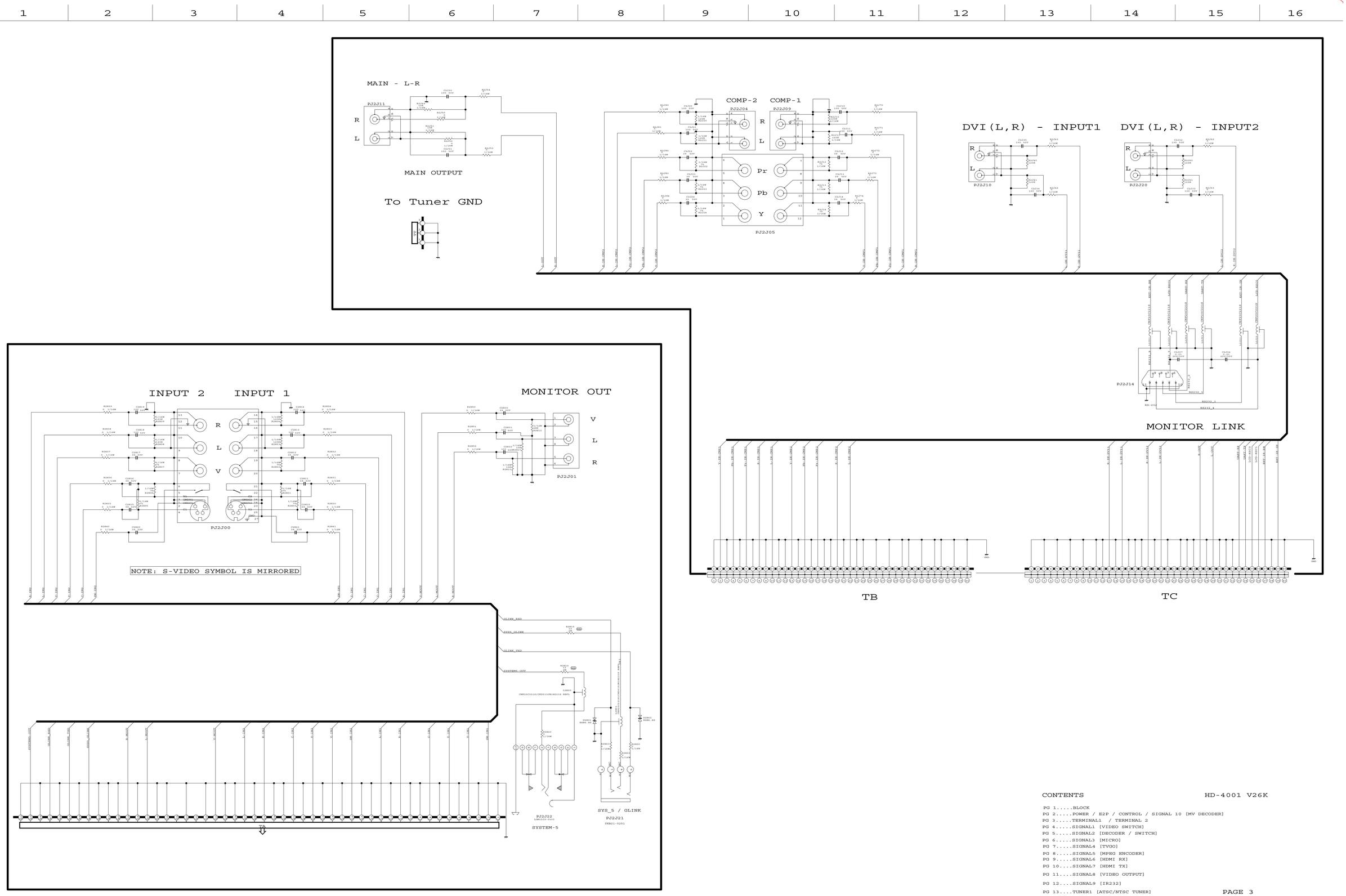


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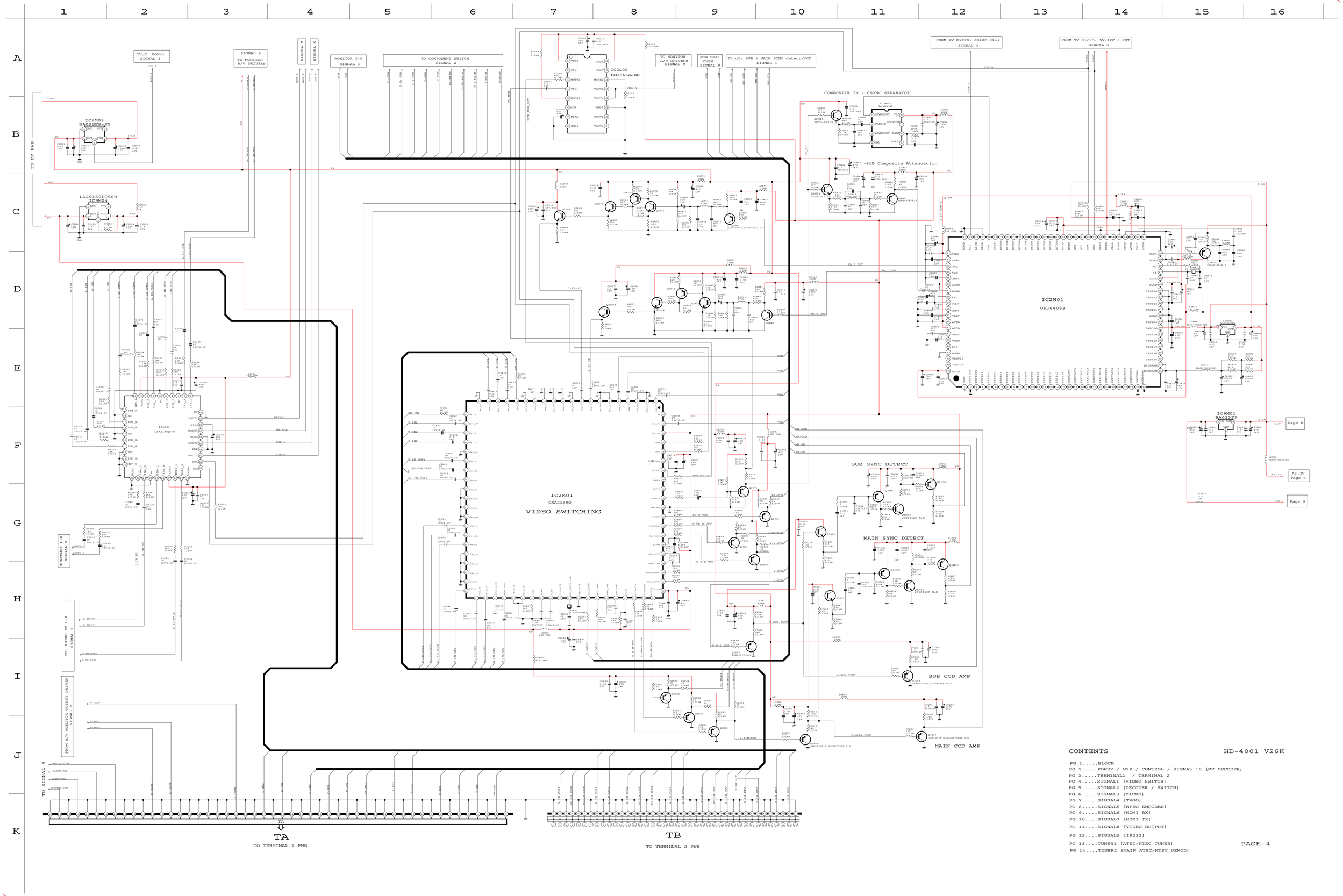


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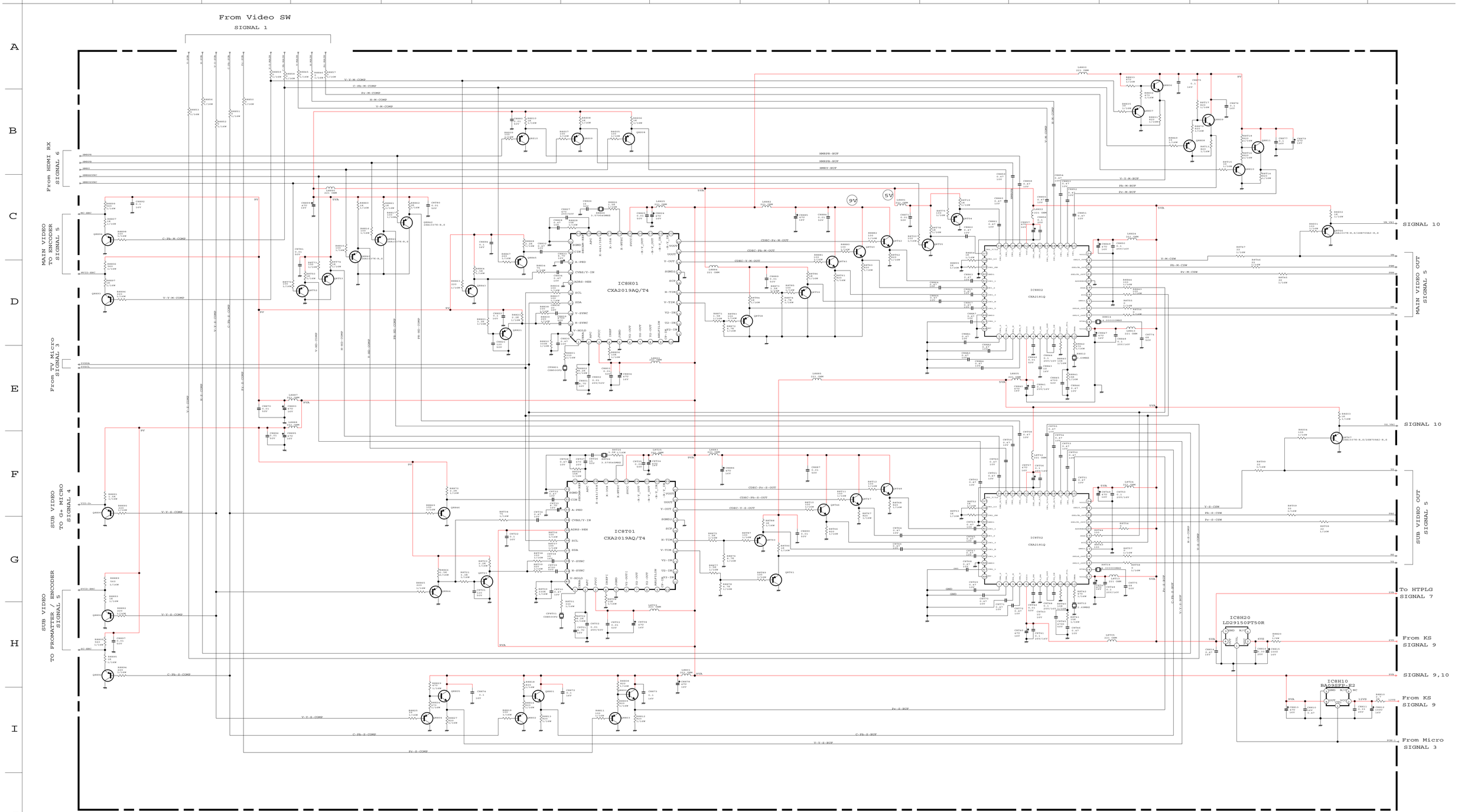


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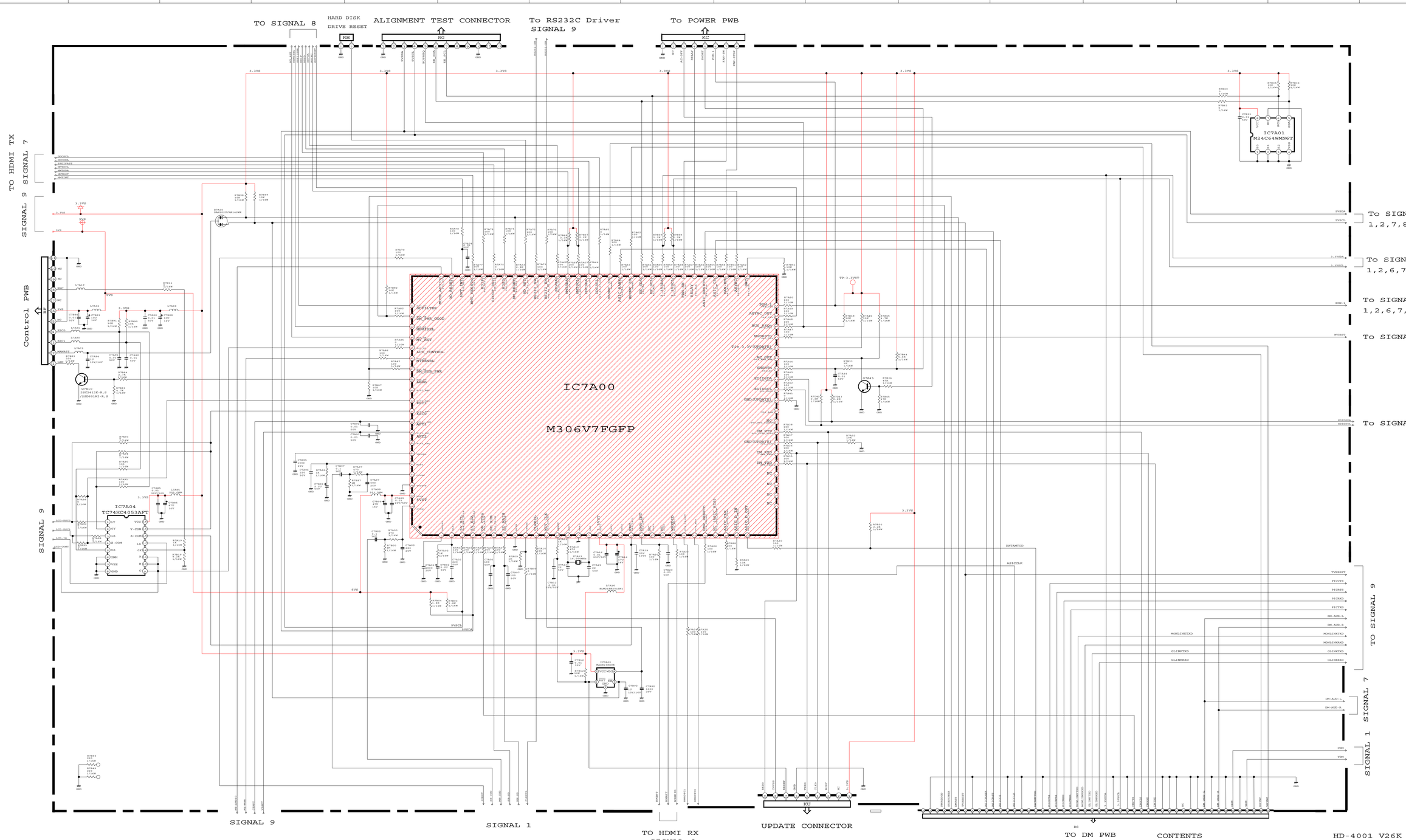


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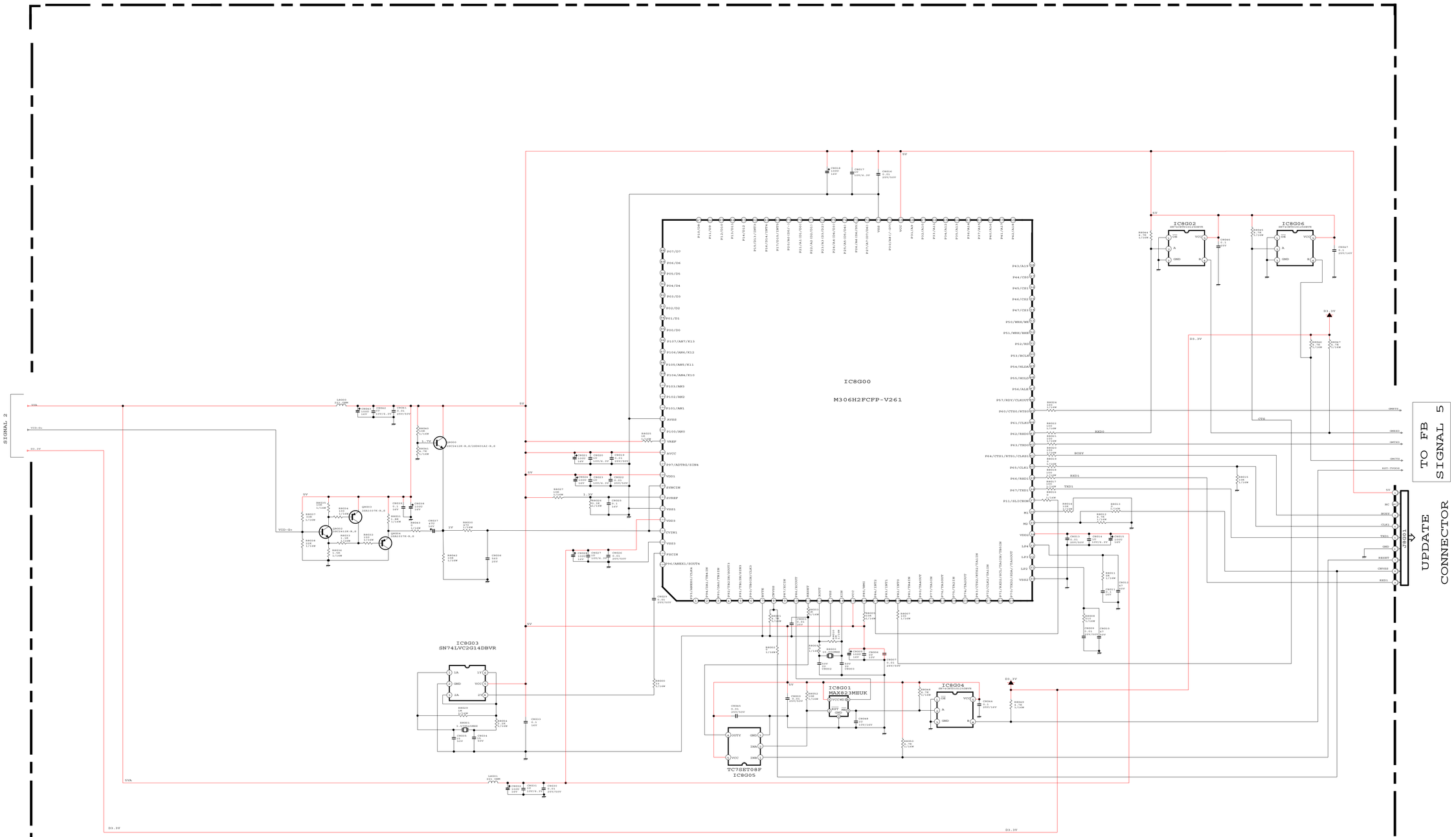


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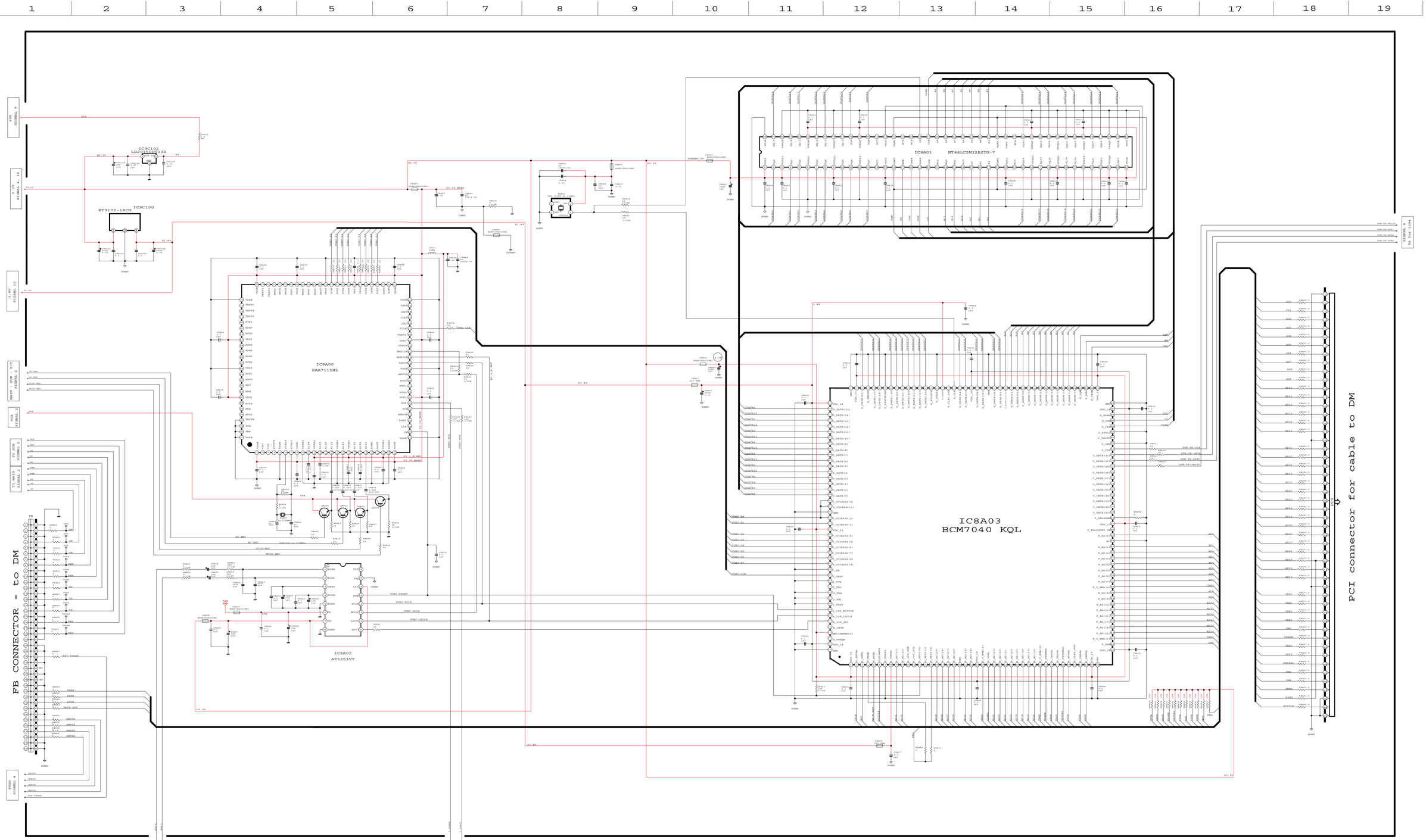


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| PIN | Signal Assignment |
|---|---|
| 1 | T.M.D.S. Data 2+ |
| 2 | T.M.D.S. Data 2 Shield |
| 3 | T.M.D.S. Data 2- |
| 4 | T.M.D.S. Data 1+ |
| 5 | T.M.D.S. Data 1 Shield |
| 6 | T.M.D.S. Data 1- |
| 7 | T.M.D.S. Data 0+ |
| 8 | T.M.D.S. Data 0 Shield |
| 9 | T.M.D.S. Data 0- |
| 10 | T.M.D.S. Clock+ |
| 11 | T.M.D.S. Clock Shield |
| 12 | T.M.D.S. Clock- |
| 13 | CEC |
| 14 | Reserve |
| 15 | DDC Clock |
| 16 | DDC Data |
| 17 | Ground (return for +5V, |
| 18 | +5V Power |
| 19 | Hot Plug Detect |
| Shell | FG |
| (20) | Location Post (GND) |
| (21) | Location Post (GND) |
| (22) | Location Post (GND) |
| (23) | Location Post (GND) |

SII9031CTU
IC2001

From Page 9
From Page 9
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To Video SW Page 2
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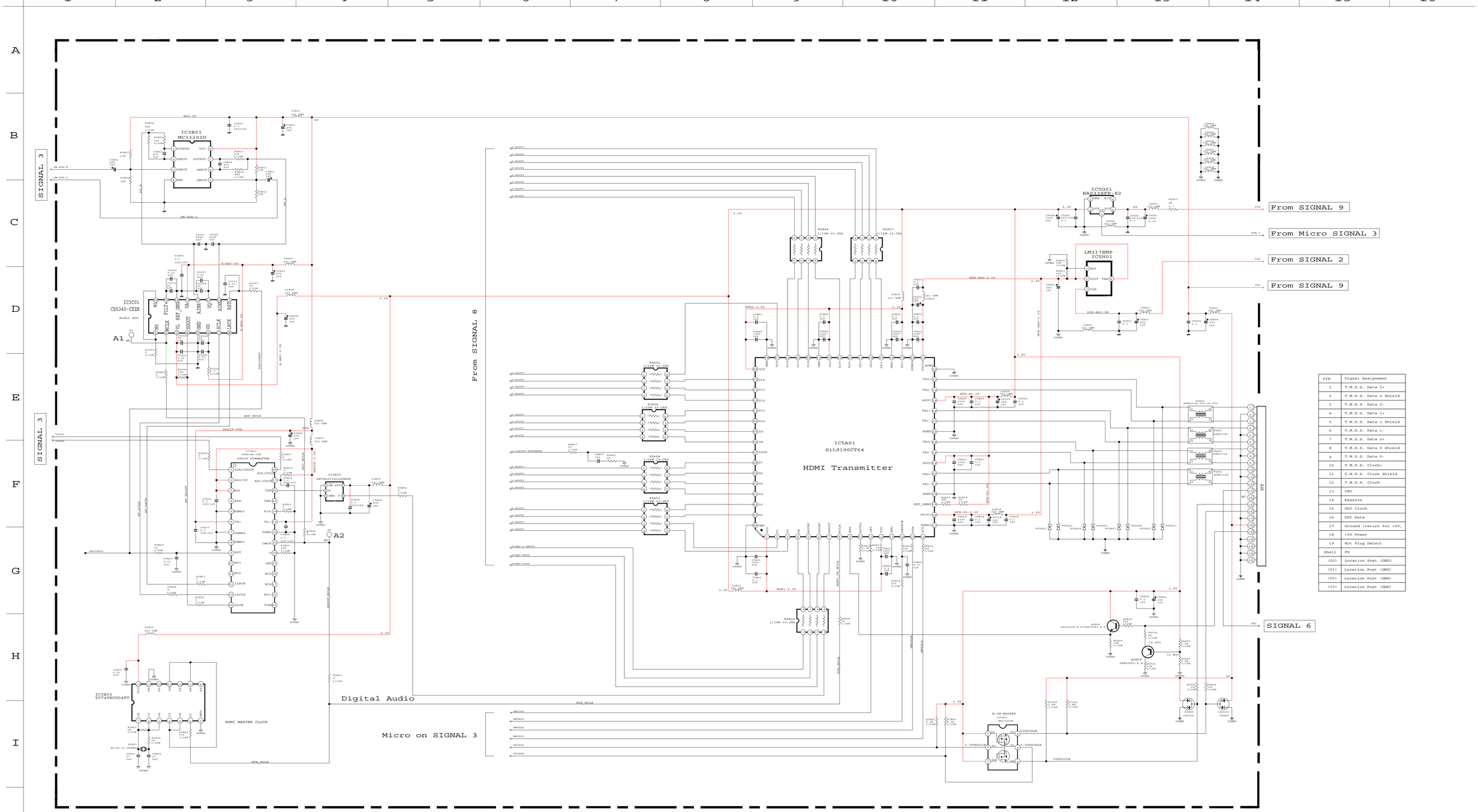


| PIN | Signal Assignment |
|---|---|
| 1 | T.M.D.S. Data 2+ |
| 2 | T.M.D.S. Data 2 Shield |
| 3 | T.M.D.S. Data 2- |
| 4 | T.M.D.S. Data 1+ |
| 5 | T.M.D.S. Data 1 Shield |
| 6 | T.M.D.S. Data 1- |
| 7 | T.M.D.S. Data 0+ |
| 8 | T.M.D.S. Data 0 Shield |
| 9 | T.M.D.S. Data 0- |
| 10 | T.M.D.S. Clock+ |
| 11 | T.M.D.S. Clock Shield |
| 12 | T.M.D.S. Clock- |
| 13 | CEC |
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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A B C D E F G H I J K

MPEG ENCODER
SIGNAL 5

SIGNAL 1

CPLD JTAG - PROGRAM CONNECTOR

FA From DM BOARD

To HDMI TX on SIGNAL 7

IC5J20
TCSS74MTP

IC5J10
SN74ALVPTG14ARGYR

IC5J01
ADV7196AKS
TOP VIEW
Macrovision Encoder

IC5P01
1spMACH-4128V-5T100C

IC5T01
SM5301AS-et

LD29150PT50R
IC5U01

Micro
SIGNAL 3

SIGNAL 9

SIGNAL 1
Micro
SIGNAL 3

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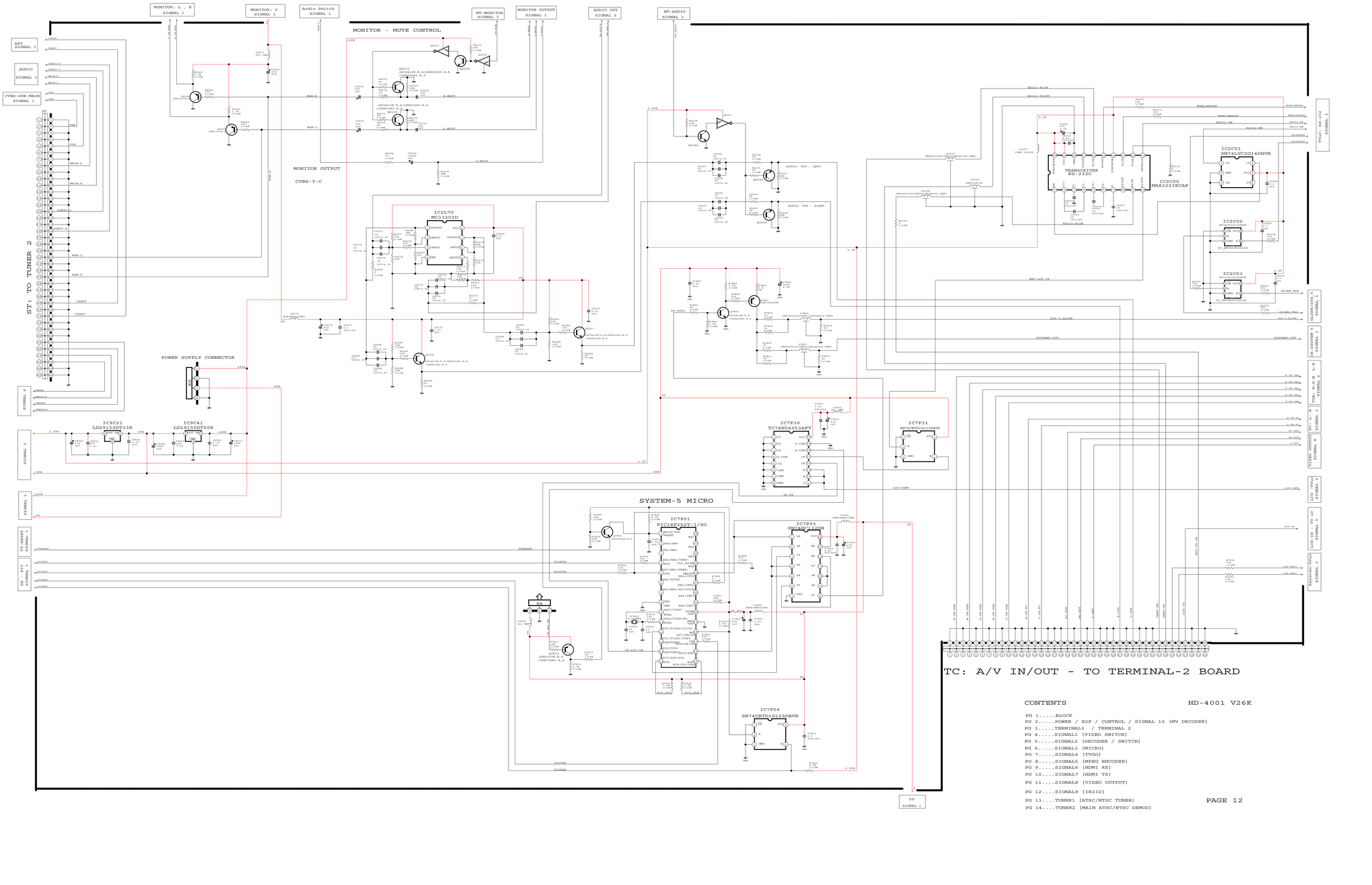


TC: A/V IN/OUT - TO TERMINAL-2 BOARD

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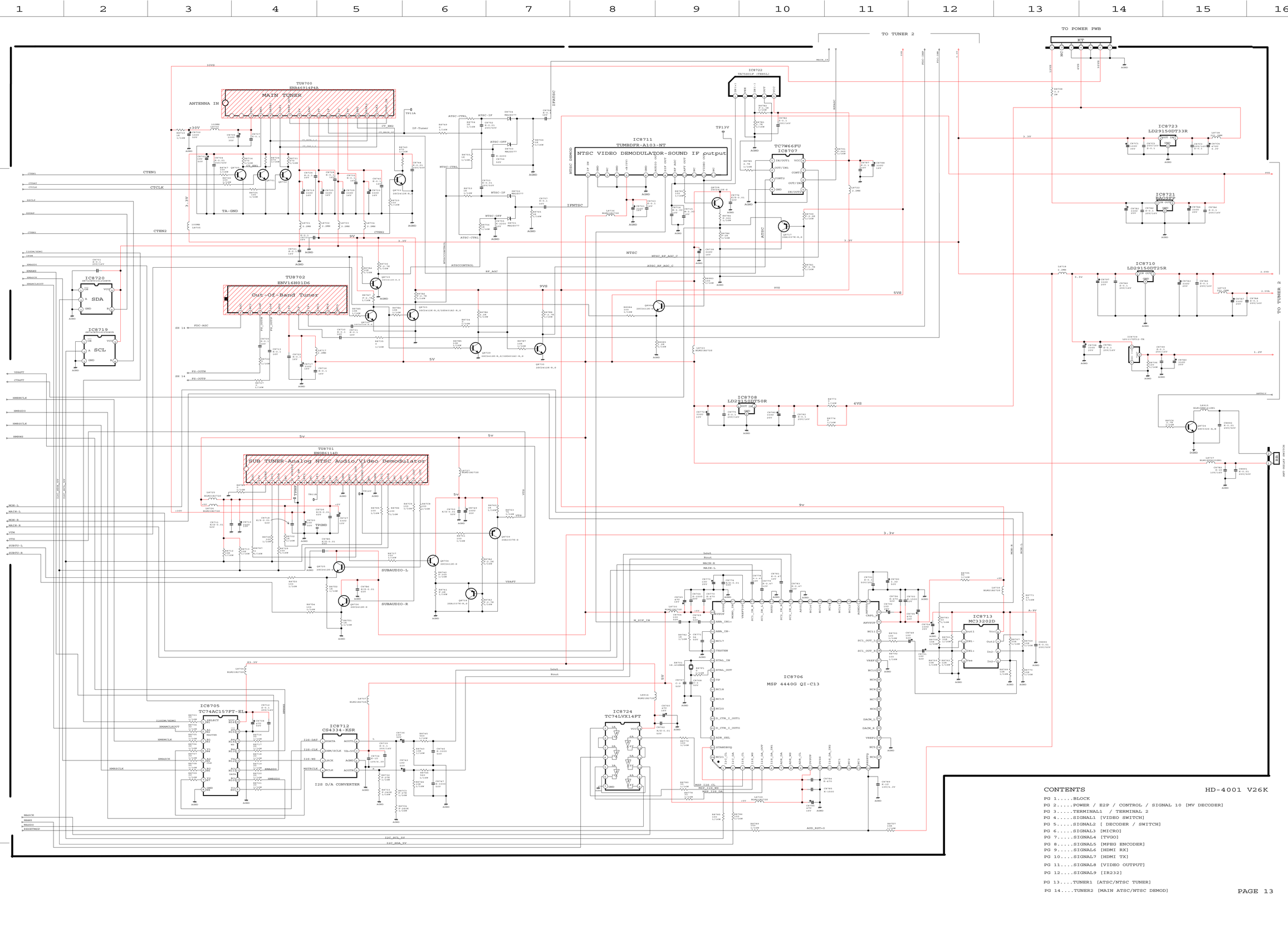
TO TUNER 2
TO POWER PWB
TU8700
ENA4691P4A
MAIN TUNER
ANTENNA IN
IC8722
TA75801F (TB85L)
IC8711
TUMB0PR-A103-NT
NTSC VIDEO DEMODULATOR-SOUND IF output
TC7W66FU
IC8707
IC8723
LD29150DT33R
IC8721
BA09FP
IC8710
LD29150DT25R
IC8720
SDA
IC8719
SCL
TU8702
ENV16H01D6
Out-Of-Band Tuner
TU8701
ENE6114D
SUB TUNER-Analog NTSC Audio/Video Demodulator
IC8705
TC74AC157FT-EL
IC8712
CS4334-KSR
I2S D/A CONVERTER
IC8724
TC74LVX14FT
IC8706
MSP 4440G QI-C13
IC8713
MC33202D
IC8708
LD29150DT50R
KT
TO DM PWB
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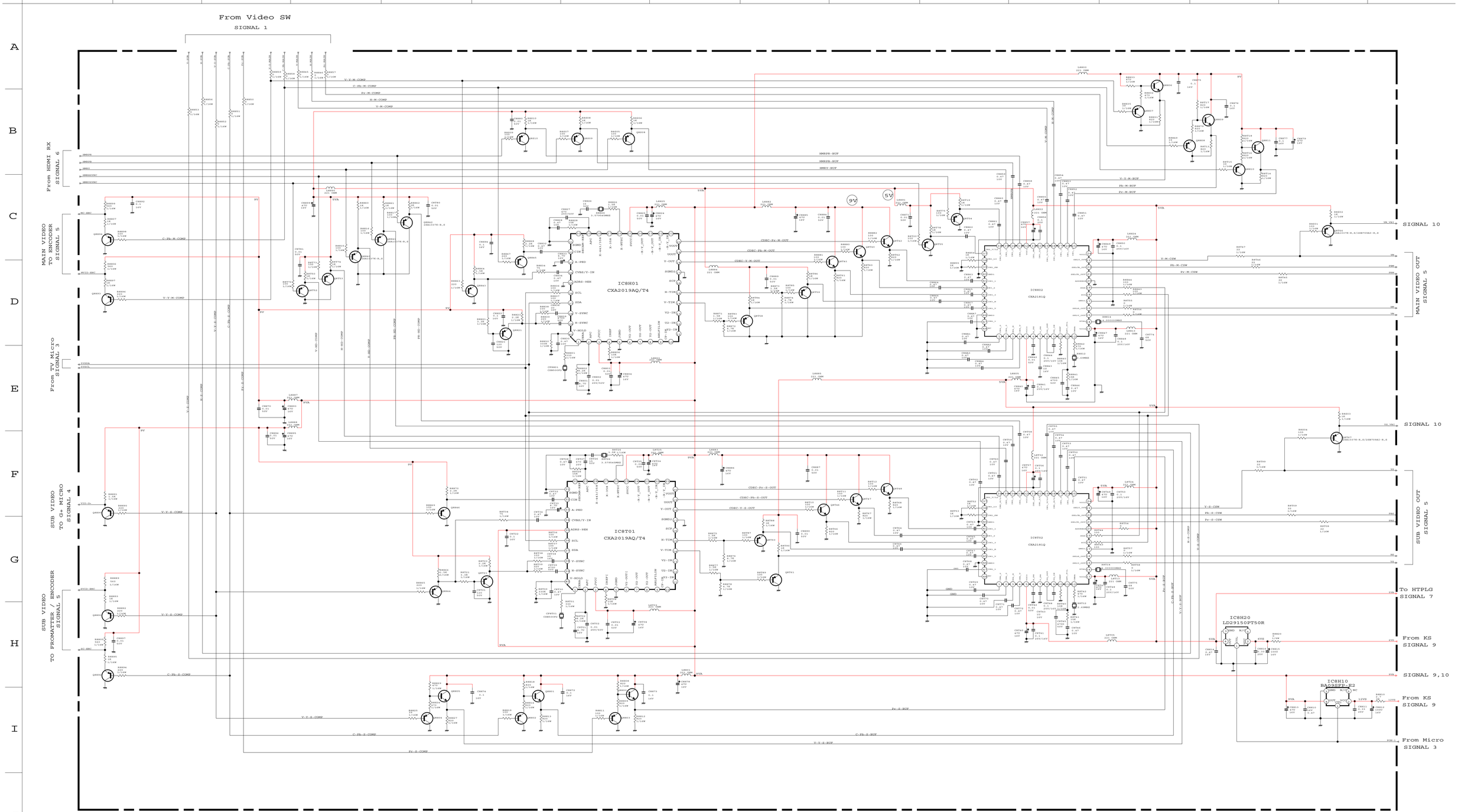


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